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gaa gaa agt caa aat gac acg ctc gaa gcg act gag tcc aag tcc cag 96
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cac atc aca ggc ctc aag ctc ggg ctg gtg gtt gct tca gtt act ttc 144
 His Ile Thr Gly Leu Lys Leu Gly Leu Val Val Ala Ser Val Thr Phe
 35 40 45

gta gca ttt ttg atg ctc ctt gat atg tcc att atc gtc acg gca atc 192
 Val Ala Phe Leu Met Leu Leu Asp Met Ser Ile Ile Val Thr Ala Ile
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cca cat atc aca agc gag ttc cac tct ctg aac gat gta ggg tgg tac 240
 Pro His Ile Thr Ser Glu Phe His Ser Leu Asn Asp Val Gly Trp Tyr
 65 70 75 80

ggc agt gct tat ctt ctg gct aac tgt gct ctc cag ccc ctg gcc ggt 288
 Gly Ser Ala Tyr Leu Leu Ala Asn Cys Ala Leu Gln Pro Leu Ala Gly
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 Lys Leu Tyr Thr Leu Leu Gly Leu Lys Tyr Thr Phe Phe Ala Phe Leu
 100 105 110

tgt att ttt gaa cta ggc tcg gtg cta tgc ggt gcc gca aga tct tcc 384
 Cys Ile Phe Glu Leu Gly Ser Val Leu Cys Gly Ala Ala Arg Ser Ser
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 Thr Met Leu Ile Val Gly Arg Ala Val Ala Gly Met Gly Gly Ser Gly
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att gtc tgt gga cca ctg ctc gga ggt gct ttc act caa cac gcc act Ile Val Cys Gly Pro Leu Leu Gly Gly Ala Phe Thr Gln His Ala Thr	180	185	190	576
tgg cga tgg tgc ttt tat atc aat ctc ccc atc ggc gct gtc gct gca Trp Arg Trp Cys Phe Tyr Ile Asn Leu Pro Ile Gly Ala Val Ala Ala	195	200	205	624
ttc ctc ctt ctc gtc atc acc ata ccc gac cga att tca tcc acg gac Phe Leu Leu Leu Val Ile Thr Ile Pro Asp Arg Ile Ser Ser Thr Asp	210	215	220	672
agc gaa ctc tcg acc gac aaa cca atg gcc aac ata aaa tcc aca ctt Ser Glu Leu Ser Thr Asp Lys Pro Met Ala Asn Ile Lys Ser Thr Leu	225	230	235	720
cgc aaa ctg gac ctt gta ggc ttt gtg gtc ttt gca gcc ttc gca acc Arg Lys Leu Asp Leu Val Gly Phe Val Val Phe Ala Ala Phe Ala Thr	245	250	255	768
atg att tcc ctc gca cta gaa tgg gga ggg tcg acc tac acc tgg cga Met Ile Ser Leu Ala Leu Glu Trp Gly Gly Ser Thr Tyr Thr Trp Arg	260	265	270	816
agt tcc gtc atc atc ggc ctg ttc tgt ggc gga ggg ttt gct ctg att Ser Ser Val Ile Ile Gly Leu Phe Cys Gly Gly Gly Phe Ala Leu Ile	275	280	285	864
gcg ttc gtg cta tgg gag cgt cat gtt ggc gat gct gtt gcc atg att Ala Phe Val Leu Trp Glu Arg His Val Gly Asp Ala Val Ala Met Ile	290	295	300	912
cct ggc tca gtg gct ggt aaa cga caa gtg tgg tgc tct tgt tta ttt Pro Gly Ser Val Ala Gly Lys Arg Gln Val Trp Cys Ser Cys Leu Phe	305	310	315	960
atg ggc ttt ttc tct ggc tcc ttg ctt gtc ttt tcc tac tat cta ccg Met Gly Phe Phe Ser Gly Ser Leu Leu Val Phe Ser Tyr Tyr Leu Pro	325	330	335	1008
atc tac ttc cag gct gtg aag gat gtt tct ccc aca ctg agt ggt gtg Ile Tyr Phe Gln Ala Val Lys Asp Val Ser Pro Thr Leu Ser Gly Val	340	345	350	1056
tac atg ttg cct gga att ctt gga caa gtc att atg gct atg gtt tct Tyr Met Leu Pro Gly Ile Leu Gly Gln Val Ile Met Ala Met Val Ser	355	360	365	1104
ggc ttc gca att gga aag aca gga tac tat ttg cct tgg gcc cta ggc Gly Phe Ala Ile Gly Lys Thr Gly Tyr Tyr Leu Pro Trp Ala Leu Gly	370	375	380	1152
agc gct gtt ctc gtc gcc ata ggc gca ggt ctg gta tcc acc ttc cag Ser Ala Val Leu Val Ala Ile Gly Ala Gly Leu Val Ser Thr Phe Gln	385	390	395	1200
ccc cat aca tca act gtg aaa tgg gtc atg tac caa ttt atc gcg ggc Pro His Thr Ser Thr Val Lys Trp Val Met Tyr Gln Phe Ile Ala Gly	405	410	415	1248
ttc ggt cgt ggt tgt ggc atg caa acg cct atc atc gcc atc caa agc Phe Gly Arg Gly Cys Gly Met Gln Thr Pro Ile Ile Ala Ile Gln Ser	420	425	430	1296

T02410-5049E860

Cys Ile Phe Glu Leu Gly Ser Val Leu Cys Gly Ala Ala Arg Ser Ser
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Thr	Met	Leu	Ile	Val	Gly	Arg	Ala	Val	Ala	Gly	Met	Gly	Gly	Ser	Gly	
130						135					140					
Leu	Val	Asn	Gly	Ala	Leu	Thr	Ile	Leu	Ser	Thr	Ala	Ala	Pro	Lys		160
145					150					155						
Lys	Gln	Pro	Val	Leu	Ile	Gly	Val	Met	Met	Gly	Leu	Ser	Gln	Ile	Ala	
				165					170					175		
Ile	Val	Cys	Gly	Pro	Leu	Leu	Gly	Gly	Ala	Phe	Thr	Gln	His	Ala	Thr	
			180					185					190			
Trp	Arg	Trp	Cys	Phe	Tyr	Ile	Asn	Leu	Pro	Ile	Gly	Ala	Val	Ala	Ala	
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Phe	Leu	Leu	Leu	Val	Ile	Thr	Ile	Pro	Asp	Arg	Ile	Ser	Ser	Thr	Asp	
	210					215					220					
Ser	Glu	Leu	Ser	Thr	Asp	Lys	Pro	Met	Ala	Asn	Ile	Lys	Ser	Thr	Leu	
225					230					235					240	
Arg	Lys	Leu	Asp	Leu	Val	Gly	Phe	Val	Val	Phe	Ala	Ala	Phe	Ala	Thr	
				245					250					255		
Met	Ile	Ser	Leu	Ala	Leu	Glu	Trp	Gly	Gly	Ser	Thr	Tyr	Thr	Trp	Arg	
			260					265					270			
Ser	Ser	Val	Ile	Ile	Gly	Leu	Phe	Cys	Gly	Gly	Gly	Phe	Ala	Leu	Ile	
		275					280					285				
Ala	Phe	Val	Leu	Trp	Glu	Arg	His	Val	Gly	Asp	Ala	Val	Ala	Met	Ile	
	290					295					300					
Pro	Gly	Ser	Val	Ala	Gly	Lys	Arg	Gln	Val	Trp	Cys	Ser	Cys	Leu	Phe	
305					310					315					320	
Met	Gly	Phe	Phe	Ser	Gly	Ser	Leu	Leu	Val	Phe	Ser	Tyr	Tyr	Leu	Pro	
				325					330					335		
Ile	Tyr	Phe	Gln	Ala	Val	Lys	Asp	Val	Ser	Pro	Thr	Leu	Ser	Gly	Val	
			340					345					350			
Tyr	Met	Leu	Pro	Gly	Ile	Leu	Gly	Gln	Val	Ile	Met	Ala	Met	Val	Ser	
		355					360					365				
Gly	Phe	Ala	Ile	Gly	Lys	Thr	Gly	Tyr	Tyr	Leu	Pro	Trp	Ala	Leu	Gly	
	370					375					380					
Ser	Ala	Val	Leu	Val	Ala	Ile	Gly	Ala	Gly	Leu	Val	Ser	Thr	Phe	Gln	
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48

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ggg agc aat gcc aat tta gtc cgt gct cag tgt caa cgt tgt caa caa	Gly Ser Asn Ala Asn Leu Val Arg Ala Gln Cys Gln Arg Cys Gln Gln				35 40 45								144
gcc gga tta agg tgt gtg tac agc gaa agg cta ccc aag cgc aat tta	Ala Gly Leu Arg Cys Val Tyr Ser Glu Arg Leu Pro Lys Arg Asn Leu				50 55 60								192
cat aaa gaa gcc gca gct gga act aca aga gcc aca gaa acc tca caa	His Lys Glu Ala Ala Ala Gly Thr Thr Arg Ala Thr Glu Thr Ser Gln				65 70 75 80								240
ccg atg acc gcg aca tct tct acg gtc ttc tca tca ttg gca gag act	Pro Met Thr Ala Thr Ser Ser Thr Val Phe Ser Ser Leu Ala Glu Thr				85 90 95								288
cct cca cct tac tgc tca cca cct acg cat att ggc acc tcg gca ctc	Pro Pro Pro Tyr Cys Ser Pro Pro Thr His Ile Gly Thr Ser Ala Leu				100 105 110								336
aag gaa aca tta tca gaa cca tca gcg gca acc ctg caa ttc tat gat	Lys Glu Thr Leu Ser Glu Pro Ser Ala Ala Thr Leu Gln Phe Tyr Asp				115 120 125								384
aca tca atc aac ttt gat gat ccc gag tcg ttt ccc ggc ggc tgg cct	Thr Ser Ile Asn Phe Asp Asp Pro Glu Ser Phe Pro Gly Gly Trp Pro				130 135 140								432
cag cca aat aca ttt cgc gac gat gcc aac agc aat gaa tct tcg ggg	Gln Pro Asn Thr Phe Arg Asp Asp Ala Asn Ser Asn Glu Ser Ser Gly				145 150 155 160								480
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cct gtc tcg cca tcg ctg ttt gac ctc gaa gta gag ggg aac tcg tca	Pro Val Ser Pro Ser Leu Phe Asp Leu Glu Val Glu Gly Asn Ser Ser				180 185 190								576
tcc gga caa tcc aac aca agc aac acg caa cga gac ctt ttc gaa agt	Ser Gly Gln Ser Asn Thr Ser Asn Thr Gln Arg Asp Leu Phe Glu Ser				195 200 205								624
ctg tcg gat gtg tca cag gac cta gag gta ata ctc cac ggg gtg act	Leu Ser Asp Val Ser Gln Asp Leu Glu Val Ile Leu His Gly Val Thr				210 215 220								672
gtg gaa tgg ccc aag caa aaa att tta agc tac ccg ata ggg gac ttt	Val Glu Trp Pro Lys Gln Lys Ile Leu Ser Tyr Pro Ile Gly Asp Phe				225 230 235 240								720
ttg aat gcc ttt ggt aga ttg cta cta cat ctt caa gaa cgt gtg atc	Leu Asn Ala Phe Gly Arg Leu Leu Leu His Leu Gln Glu Arg Val Ile				245 250 255								768
acg agc agc aat agc agc atg tta gat ggg tgt ctg caa acc aag aac	Thr Ser Ser Asn Ser Ser Met Leu Asp Gly Cys Leu Gln Thr Lys Asn				260 265 270								816
ttg ttc atg gcg gtg cat tgc tac atg ttg tct gtc aaa atc atg aca	Leu Phe Met Ala Val His Cys Tyr Met Leu Ser Val Lys Ile Met Thr				275 280 285								864

T0240-5029E60

His Lys Glu Ala Ala Ala Gly Thr Thr Arg Ala Thr Glu Thr Ser Gln
65 70 75 80.

Asn Leu His Ile Gly Glu Leu Ile Ser His Leu Asp Pro Phe Met His
340 345 350

Ala Leu Ser Ser Ala Cys Thr Thr Leu Arg Val Ser Leu Arg Leu Leu
355 360 365

Ser Glu Ile Glu Thr Ala Leu Gly Ile Ala Gln Glu His Gly Ala Ala
370 375 380

Ala Ser Ile Arg Leu Val Leu Ser Asp Met Pro Ser Thr Ser Trp Gln
385 390 395 400

Ile Leu Gly Ala Glu Asn Lys Thr Ile Thr Pro Ala Ser Arg Leu Leu
405 410 415

Ser Val Leu Trp Ser Asp Glu Ala Gly Asp Glu Glu Pro Lys Ser Thr
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Lys Ala Ser Gly Lys Thr Ile Asn Val Leu Arg Arg Cys Tyr Lys Glu
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Gly Cys Arg Phe Pro Gly Gly Val Asn Thr Pro Ser Lys Leu Trp Glu
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ctg ctc aaa gag ccc cgg gat gta cag acc aag atc cct aag gag aga 144
Leu Leu Lys Glu Pro Arg Asp Val Gln Thr Lys Ile Pro Lys Glu Arg
35 40 45
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Phe Asp Val Asp Thr Phe Tyr Ser Pro Asp Gly Thr His Pro Gly Arg
50 55 60
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Thr Asn Ala Pro Phe Ala Tyr Leu Leu Gln Glu Asp Leu Arg Gly Phe
65 70 75 80
gat gcc tct ttc ttc aac atc caa gct gga gag gcc gaa acg att gac 288
Asp Ala Ser Phe Phe Asn Ile Gln Ala Gly Glu Ala Glu Thr Ile Asp
85 90 95
cca cag caa agg ctg ctg ctg gag acg gtc tat gaa gct gta tcc aac 336
Pro Gln Gln Arg Leu Leu Leu Glu Thr Val Tyr Glu Ala Val Ser Asn
100 105 110
gca ggc cta cgg atc caa ggc ctt caa gga tcc tct act gct gtg tac 384
Ala Gly Leu Arg Ile Gln Gly Leu Gln Gly Ser Ser Thr Ala Val Tyr
115 120 125

00996395-1044704

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gat Asp 145	agt Ser 145	att Ile 145	cct Pro 145	aca Thr 150	tac Tyr 150	tct Ser 150	gcc Ala 150	acg Thr 150	ggg Gly 155	gta Val 155	gct Ala 155	gtc Val 155	agt Ser 155	gtg Val 160	gcc Ala 160	480
tcc Ser 165	aac Asn 165	cgt Arg 165	gta Val 165	tca Ser 165	tac Tyr 165	ttc Phe 165	ttc Phe 165	gac Asp 170	tgg Trp 170	cat His 170	ggg Gly 170	ccg Pro 170	agt Ser 175	atg Met 175	acg Thr 175	528
atc Ile 180	gac Asp 180	aca Thr 180	gcc Ala 180	tgt Cys 180	agt Ser 180	tca Ser 185	tcc Ser 185	tta Leu 185	gct Ala 185	gcc Ala 185	gtg Val 190	cat His 190	ctg Leu 190	gcc Ala 190	gtc Val 190	576
caa Gln 195	cag Gln 195	ctt Leu 195	aga Arg 195	acg Thr 195	ggc Gly 195	gag Glu 200	agt Ser 200	acc Thr 200	atg Met 200	gcg Ala 205	ggt Val 205	gca Ala 205	gcc Ala 205	ggg Gly 205	gcg Ala 205	624
aat Asn 210	ctg Leu 210	ata Ile 210	ttg Leu 210	ggc Gly 210	ccc Pro 215	atg Met 215	acc Thr 215	ttt Phe 215	gta Val 215	atg Met 220	gag Glu 220	agc Ser 220	aaa Lys 220	ttg Leu 220	aac Asn 220	672
atg Met 225	ctg Leu 225	tcc Ser 225	ccc Pro 225	aat Asn 230	ggg Gly 230	aga Arg 230	tct Ser 230	cga Arg 235	atg Met 235	tgg Trp 235	gat Asp 235	gct Ala 235	gct Ala 235	gcc Ala 240	gat Asp 240	720
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agc Ser 260	cag Gln 260	gca Ala 260	ctg Leu 260	cgc Arg 260	gac Asp 260	ggg Gly 265	gac Asp 265	agt Ser 265	atc Ile 265	gag Glu 265	tgt Cys 265	gtt Val 265	atc Ile 270	cga Arg 270	gag Glu 270	816
acc Thr 275	ggg Gly 275	atc Ile 275	aac Asn 275	caa Gln 275	gat Asp 275	ggc Gly 280	cga Arg 280	acg Thr 280	aca Thr 280	ggg Gly 280	atc Ile 285	aca Thr 285	atg Met 285	cca Pro 285	aac Asn 285	864
cat His 290	agc Ser 290	gca Ala 290	caa Gln 290	gaa Glu 290	gcc Ala 295	ctc Leu 295	att Ile 295	cgg Arg 295	gcc Ala 295	aca Thr 300	tat Tyr 300	gcc Ala 300	aag Lys 300	gct Ala 300	ggg Gly 300	912
ctt Leu 305	gat Asp 305	att Ile 305	acc Thr 305	aac Asn 310	ccc Pro 310	cag Gln 310	gaa Glu 310	cgc Arg 310	tgc Cys 315	cag Gln 315	ttc Phe 315	ttt Phe 315	gaa Glu 315	gcc Ala 320	cat His 320	960
gga Gly 325	act Thr 325	ggg Gly 325	aca Thr 325	cca Pro 325	gcc Ala 325	ggg Gly 325	gac Asp 325	cca Pro 330	cag Gln 330	gaa Glu 330	gct Ala 330	gag Glu 330	gct Ala 335	att Ile 335	gca Ala 335	1008
aca Thr 340	gcc Ala 340	ttc Phe 340	ttc Phe 340	gga Gly 340	cac His 340	aag Lys 340	gat Asp 345	gga Gly 345	aca Thr 345	atc Ile 345	gac Asp 345	agc Ser 350	gac Asp 350	ggc Gly 350	gag Glu 350	1056
aaa Lys 355	gat Asp 355	gag Glu 355	ctt Leu 355	ttt Phe 355	gtc Val 355	ggc Gly 360	agc Ser 360	atc Ile 360	aag Lys 360	aca Thr 360	gtt Val 365	ctc Leu 365	ggg Gly 365	cac His 365	acg Thr 365	1104
gaa Glu 370	ggc Gly 370	act Thr 370	gct Ala 370	ggg Gly 370	att Ile 375	gag Ala 375	ggc Gly 375	tta Leu 375	atg Met 375	aag Lys 375	gca Ala 380	tcg Ser 380	ttt Phe 380	gct Ala 380	gta Val 380	1152
cga Arg 385	aat Asn 385	ggc Gly 385	gtg Val 385	atc Ile 385	ccg Pro 390	cca Pro 390	aac Asn 390	ctg Leu 390	ctg Leu 395	ttt Phe 395	gag Glu 395	aag Lys 395	atc Ile 395	agt Ser 400	ccc Pro 400	1200
cgt Arg 400	gtc Val 400	gct Ala 400	ccg Pro 400	ttc Phe 400	tat Tyr 400	acg Thr 400	cac His 400	ttg Leu 400	aaa Lys 400	att Ile 400	gca Ala 400	acg Thr 400	gag Glu 400	gcc Ala 400	aca Thr 400	1248

405								410				415					
gaa	tgg	ccg	att	gtt	gcg	ccc	ggg	cag	cct	cgc	aga	gtc	agc	gtt	aat		1296
Glu	Trp	Pro	Ile	Val	Ala	Pro	Gly	Gln	Pro	Arg	Arg	Val	Ser	Val	Asn		
			420					425					430				
tca	ttt	gga	ttt	ggc	ggc	aca	aat	gcc	cat	gct	att	atc	gaa	gag	tat		1344
Ser	Phe	Gly	Phe	Gly	Gly	Thr	Asn	Ala	His	Ala	Ile	Ile	Glu	Glu	Tyr		
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atg	gct	cct	cca	cac	aag	ccg	aca	gca	gtg	gta	aca	gag	gtg	acc	tca		1392
Met	Ala	Pro	Pro	His	Lys	Pro	Thr	Ala	Val	Val	Thr	Glu	Val	Thr	Ser		
	450					455					460						
gat	gca	gat	gca	tgc	agc	ttg	ccc	ctt	gtg	ctt	tca	tcg	aag	tcg	cag		1440
Asp	Ala	Asp	Ala	Cys	Ser	Leu	Pro	Leu	Val	Leu	Ser	Ser	Lys	Ser	Gln		
465					470				475						480		
cgc	tcc	atg	aag	gca	acg	cta	gaa	aat	atg	ctc	caa	ttt	ctg	gaa	acg		1488
Arg	Ser	Met	Lys	Ala	Thr	Leu	Glu	Asn	Met	Leu	Gln	Phe	Leu	Glu	Thr		
				485					490					495			
cat	gat	gac	gtg	gac	atg	cat	gat	atc	gca	tat	acc	tta	ctt	gag	aaa		1536
His	Asp	Asp	Val	Asp	Met	His	Asp	Ile	Ala	Tyr	Thr	Leu	Leu	Glu	Lys		
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cgg	tct	atc	ttg	ccc	ttc	cgt	cgt	gcg	att	gca	gca	cac	aac	aag	gaa		1584
Arg	Ser	Ile	Leu	Pro	Phe	Arg	Arg	Ala	Ile	Ala	Ala	His	Asn	Lys	Glu		
		515					520					525					
gta	gcc	cgc	gcg	gca	ctg	gag	gct	gcc	atc	gcg	gac	ggc	gag	gtc	gtc		1632
Val	Ala	Arg	Ala	Ala	Leu	Glu	Ala	Ala	Ile	Ala	Asp	Gly	Glu	Val	Val		
	530					535					540						
acc	gac	ttc	cgc	acc	gac	gcg	aat	gac	aac	cct	cgc	gta	cta	ggc	gtc		1680
Thr	Asp	Phe	Arg	Thr	Asp	Ala	Asn	Asp	Asn	Pro	Arg	Val	Leu	Gly	Val		
	545				550					555					560		
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Phe	Thr	Gly	Gln	Gly	Ala	Gln	Trp	Pro	Gly	Met	Leu	Lys	Lys	Leu	Met		
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Val	Gly	Met	Pro	Phe	Val	Arg	Gly	Ile	Leu	Glu	Glu	Leu	Asp	Asn	Ser		
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Leu	Gln	Thr	Leu	Pro	Glu	Lys	Tyr	Arg	Pro	Thr	Trp	Thr	Leu	Tyr	Asp		
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cag	ctc	atg	ctt	gaa	ggc	gat	gcc	tca	aac	gtc	aga	ctc	gcc	agc	ttc		1872
Gln	Leu	Met	Leu	Glu	Gly	Asp	Ala	Ser	Asn	Val	Arg	Leu	Ala	Ser	Phe		
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Ser	Gln	Pro	Leu	Cys	Cys	Ala	Val	Gln	Ile	Val	Leu	Val	Arg	Leu	Leu		
	625				630					635					640		
gct	gca	gct	ggc	atc	gag	ttc	agt	gca	att	gtc	ggc	cac	agt	tca	ggc		1968
Ala	Ala	Ala	Gly	Ile	Glu	Phe	Ser	Ala	Ile	Val	Gly	His	Ser	Ser	Gly		
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gag	att	gcc	tgt	gcc	ttt	gcg	gca	gga	ttc	atc	agt	gcc	act	caa	gct		2016
Glu	Ile	Ala	Cys	Ala	Phe	Ala	Ala	Gly	Phe	Ile	Ser	Ala	Thr	Gln	Ala		
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atc	cgt	att	gcg	cat	ctg	cgt	gga	gtt	gtg	tcc	gcg	gag	cat	gcc	tct		2064
Ile	Arg	Ile	Ala	His	Leu	Arg	Gly	Val	Val	Ser	Ala	Glu	His	Ala	Ser		
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Asp	Asp	Ala	Lys	Glu	Leu	Cys	Glu	Leu	Glu	Ala	Phe	Glu	Gly	Arg	Val	
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tgc	gtc	gcc	gct	agc	aat	tca	ccg	gat	agt	gtg	acc	ttc	tcc	ggc	gac	2208
Cys	Val	Ala	Ala	Ser	Asn	Ser	Pro	Asp	Ser	Val	Thr	Phe	Ser	Gly	Asp	
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Phe	Ala	Arg	Ile	Leu	Arg	Val	Asp	Lys	Ala	Tyr	His	Ser	His	His	Met	
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cac	cca	tgc	gca	gct	cca	tat	gtc	aag	gca	ttg	ctg	gag	tgc	gac	tgt	2352
His	Pro	Cys	Ala	Ala	Pro	Tyr	Val	Lys	Ala	Leu	Leu	Glu	Cys	Asp	Cys	
	770					775					780					
gct	gtt	gcc	gat	ggc	caa	ggg	aac	gat	agt	gtt	gct	tgg	ttc	tct	gcc	2400
Ala	Val	Ala	Asp	Gly	Gln	Gly	Asn	Asp	Ser	Val	Ala	Trp	Phe	Ser	Ala	
785					790					795					800	
gtc	cac	gag	acc	agc	aag	caa	atg	act	gta	cag	gat	gtg	atg	ccc	gct	2448
Val	His	Glu	Thr	Ser	Lys	Gln	Met	Thr	Val	Gln	Asp	Val	Met	Pro	Ala	
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Tyr	Trp	Lys	Asp	Asn	Leu	Val	Ser	Pro	Val	Leu	Phe	Ser	Gln	Ala	Val	
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Gln	Lys	Ala	Val	Ile	Thr	His	Arg	Leu	Ile	Asp	Val	Ala	Ile	Glu	Ile	
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ggc	gcc	cac	cct	gct	ctc	aag	ggg	ccg	tgt	cta	gcc	acc	atc	aag	gat	2592
Gly	Ala	His	Pro	Ala	Leu	Lys	Gly	Pro	Cys	Leu	Ala	Thr	Ile	Lys	Asp	
	850					855					860					
gct	ctt	gcc	ggg	gtg	gag	ctg	ccg	tat	acc	ggg	tgc	ttg	gca	cga	aac	2640
Ala	Leu	Ala	Gly	Val	Glu	Leu	Pro	Tyr	Thr	Gly	Cys	Leu	Ala	Arg	Asn	
865					870					875					880	
gtt	gac	gat	gtg	gac	gct	ttt	gct	gga	ggg	ctg	gga	tac	att	tgg	gag	2688
Val	Asp	Asp	Val	Asp	Ala	Phe	Ala	Gly	Gly	Leu	Gly	Tyr	Ile	Trp	Glu	
				885					890					895		
cgt	ttc	gga	gtt	cgg	agt	atc	gac	gcc	gag	ggc	ttc	gta	caa	caa	gtc	2736
Arg	Phe	Gly	Val	Arg	Ser	Ile	Asp	Ala	Glu	Gly	Phe	Val	Gln	Gln	Val	
			900					905					910			
cgg	ccc	gat	cgt	gcc	gtt	caa	aac	ctg	tca	aag	tca	ttg	ccc	aca	tac	2784
Arg	Pro	Asp	Arg	Ala	Val	Gln	Asn	Leu	Ser	Lys	Ser	Leu	Pro	Thr	Tyr	
		915					920					925				
tct	tgg	gat	cat	act	cgt	caa	tac	tgg	gca	gaa	tct	cgc	tcc	acc	cgc	2832
Ser	Trp	Asp	His	Thr	Arg	Gln	Tyr	Trp	Ala	Glu	Ser	Arg	Ser	Thr	Arg	
	930					935						940				
cag	cat	ctt	cgt	gga	ggg	gcg	ccc	cat	ctt	ctg	ctt	gga	aag	ctt	tct	2880
Gln	His	Leu	Arg	Gly	Gly	Ala	Pro	His	Leu	Leu	Leu	Gly	Lys	Leu	Ser	
945					950					955					960	
tct	tac	agc	aca	gca	tcg	acc	ttc	cag	tgg	aca	aac	ttc	atc	agg	ccc	2928
Ser	Tyr	Ser	Thr	Ala	Ser	Thr	Phe	Gln	Trp	Thr	Asn	Phe	Ile	Arg	Pro	

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gac aca atc aac aca cac gac aag ggt gat ttc ctg agc ggc gac 3699
Asp Thr Ile Asn Thr His Asp Lys Gly Asp Phe Leu Ser Gly Asp
1220 1225 1230

atc acg gtg tac gat tcg acc Ile Thr Val Tyr Asp Ser Thr 1235	aag aca acg ctt ttc Lys Thr Thr Leu Phe 1240	caa gtt gat Gln Val Asp 1245	3744
aac att gtc ttt aag cct ttc Asn Ile Val Phe Lys Pro Phe 1250	tct ccc ccg act gct Ser Pro Pro Thr Ala 1255	tcg acc gac Ser Thr Asp 1260	3789
cac cga atc ttc gca aag tgg His Arg Ile Phe Ala Lys Trp 1265	gtc tgg gga ccc ctc Val Trp Gly Pro Leu 1270	acg ccc gaa Thr Pro Glu 1275	3834
aaa ctg ctg gag gac cct gcg Lys Leu Leu Glu Asp Pro Ala 1280	acg ttg atc ata gct Thr Leu Ile Ile Ala 1285	cgg gac aag Arg Asp Lys 1290	3879
gag gac att ctg acc atc gag Glu Asp Ile Leu Thr Ile Glu 1295	cga atc gtt tac ttc Arg Ile Val Tyr Phe 1300	tac atc aaa Tyr Ile Lys 1305	3924
tcc ttc cta gcc cag ata acc Ser Phe Leu Ala Gln Ile Thr 1310	ccc gac gac cgt caa Pro Asp Asp Arg Gln 1315	aat gcc gac Asn Ala Asp 1320	3969
ctc cat tcc cag aag tac att Leu His Ser Gln Lys Tyr Ile 1325	gaa tgg tgt gac cag Glu Trp Cys Asp Gln 1330	gtt cag gcc Val Gln Ala 1335	4014
gat gct cgg gct ggc cac cat Asp Ala Arg Ala Gly His His 1340	cag tgg tac cag gag Gln Trp Tyr Gln Glu 1345	tct tgg gag Ser Trp Glu 1350	4059
gag gac act tct gtt cac att Glu Asp Thr Ser Val His Ile 1355	gag caa atg tgt gaa Glu Gln Met Cys Glu 1360	agc aac tcg Ser Asn Ser 1365	4104
tcc cac cca cat gtg cgc ctg Ser His Pro His Val Arg Leu 1370	atc caa agg gta ggc Ile Gln Arg Val Gly 1375	aaa gaa tta Lys Glu Leu 1380	4149
att tca att gtt cgc ggg aac Ile Ser Ile Val Arg Gly Asn 1385	ggg gat cct ttg gat Gly Asp Pro Leu Asp 1390	atc atg aac Ile Met Asn 1395	4194
cgc gat ggg ttg ttc acc gag Arg Asp Gly Leu Phe Thr Glu 1400	tac tat acc aac aag Tyr Tyr Thr Asn Lys 1405	ctc gcc ttt Leu Ala Phe 1410	4239
ggc tca gca ata cac gtc gtt Gly Ser Ala Ile His Val Val 1415	cag gat ctg gtt agc Gln Asp Leu Val Ser 1420	caa att gct Gln Ile Ala 1425	4284
cat cgc tac caa tcc att gat His Arg Tyr Gln Ser Ile Asp 1430	atc ctt gag atc ggc Ile Leu Glu Ile Gly 1435	ttg ggt aca Leu Gly Thr 1440	4329
ggc atc gcc acg aag cgc gtt Gly Ile Ala Thr Lys Arg Val 1445	ctt gca tca cct caa Leu Ala Ser Pro Gln 1450	ctt ggt ttc Leu Gly Phe 1455	4374
aac agt tac act tgc act gac Asn Ser Tyr Thr Cys Thr Asp 1460	atc tcg gcg gat gtt Ile Ser Ala Asp Val 1465	att ggc aag Ile Gly Lys 1470	4419
gcc cgt gaa caa ctt tcc gaa Ala Arg Glu Gln Leu Ser Glu 1475	ttc gac ggt ctc atg Phe Asp Gly Leu Met 1480	cag ttt gag Gln Phe Glu 1485	4464
gca cta gac atc aac aga agc Ala Leu Asp Ile Asn Arg Ser 1490	cca gca gag caa gga Pro Ala Glu Gln Gly 1495	ttc aag cct Phe Lys Pro 1500	4509

1490	1495	1500	
cac tcc tac gat ctg att att His Ser Tyr Asp Leu Ile Ile 1505 1510	gca tcc gat gtc ctc Ala Ser Asp Val Leu 1515	cat gcc agc His Ala Ser	4554
tcc aac ttc gag gaa aaa ttg Ser Asn Phe Glu Glu Lys Leu 1520 1525	gct cac ata agg tcc Ala His Ile Arg Ser 1530	ttg ctc aag Leu Leu Lys	4599
cgc ggt ggt cac ttg gtt act Pro Gly Gly His Leu Val Thr 1535 1540	ttc ggg gtc acc cat Phe Gly Val Thr His 1545	cgc gag cct Arg Glu Pro	4644
gct cgc ctc gcc ttc atc tct Ala Arg Leu Ala Phe Ile Ser 1550 1555	ggg ctt ttc gct gat Gly Leu Phe Ala Asp 1560	cga tgg act Arg Trp Thr	4689
gga gaa gac gaa act cgt gct Gly Glu Asp Glu Thr Arg Ala 1565 1570	ttg agt gcc tcg ggg Leu Ser Ala Ser Gly 1575	tcc gtt gac Ser Val Asp	4734
caa tgg gag cat acc ctc aag Gln Trp Glu His Thr Leu Lys 1580 1585	aga gtt ggg ttc tct Arg Val Gly Phe Ser 1590	ggc gtc gat Gly Val Asp	4779
agt cgg aca ctt gat cga gag Ser Arg Thr Leu Asp Arg Glu 1595 1600	gat gat ttg atc ccg Asp Asp Leu Ile Pro 1605	tct gtc ttc Ser Val Phe	4824
agt aca cat gct gtg gat gcc Ser Thr His Ala Val Asp Ala 1610 1615	acc gtt gag cgt ttg Thr Val Glu Arg Leu 1620	tat gat cca Tyr Asp Pro	4869
ctt tct gct cca ttg aag gac Leu Ser Ala Pro Leu Lys Asp 1625 1630	tca tac ccg cca tta Ser Tyr Pro Pro Leu 1635	gtg gtt atc Val Val Ile	4914
ggt ggc gaa tcg aca aaa acc Gly Gly Glu Ser Thr Lys Thr 1640 1645	gaa cgc att ttg aac Glu Arg Ile Leu Asn 1650	gac atg aaa Asp Met Lys	4959
gct gcc cta ccg cat aga cac Ala Ala Leu Pro His Arg His 1655 1660	atc cac tcc gtc aag Ile His Ser Val Lys 1665	cgg ctg gaa Arg Leu Glu	5004
agt gtt ctc gac gac ccg gcc Ser Val Leu Asp Asp Pro Ala 1670 1675	ttg cag cct aag tcg Leu Gln Pro Lys Ser 1680	act ttt gtc Thr Phe Val	5049
atc ctc tcg gaa ctt gat gat Ile Leu Ser Glu Leu Asp Asp 1685 1690	gaa gtg ttt tgc aac Glu Val Phe Cys Asn 1695	ctt gaa gag Leu Glu Glu	5094
gac aag ttt gag gca gtc aag Asp Lys Phe Glu Ala Val Lys 1700 1705	tct ctt ctc ttc tac Ser Leu Leu Phe Tyr 1710	gcc gga cgc Ala Gly Arg	5139
atg atg tgg ctg aca gag aat Met Met Trp Leu Thr Glu Asn 1715 1720	gcc tgg att gat cat Ala Trp Ile Asp His 1725	ccc cac cag Pro His Gln	5184
gcc agc acc atc gga atg ttg Ala Ser Thr Ile Gly Met Leu 1730 1735	agg aca atc aag ctc Arg Thr Ile Lys Leu 1740	gag aac cct Glu Asn Pro	5229
gac ttg gga acg cac gtc ttc Asp Leu Gly Thr His Val Phe 1745 1750	gat gtc gat act gtg Asp Val Asp Thr Val 1755	gag aac cta Glu Asn Leu	5274

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gac Asp 1760	acc Thr	aaa Lys	ttc Phe	ttc Phe	gtt Val	gag Glu 1765	caa Gln	ctt Leu	ttg Leu	cgc Arg	ttc Phe 1770	gag Glu	gag Glu	agc Ser	5319
gat Asp 1775	gat Asp	cag Gln	ctt Leu	ttg Leu	gaa Glu	tca Ser 1780	ata Ile	aca Thr	tgg Trp	act Thr	cat His 1785	gag Glu	ccc Pro	gaa Glu	5364
gtg Val 1790	tac Tyr	tgg Trp	tgc Cys	aag Lys	ggt Gly	cgt Arg 1795	gcc Ala	tgg Trp	gtc Val	cct Pro	cgt Arg 1800	ttg Leu	aag Lys	cag Gln	5409
gat Asp 1805	att Ile	gct Ala	agg Arg	aac Asn	gac Asp	cgt Arg 1810	atg Met	aac Asn	tcg Ser	tct Ser	cgt Arg 1815	cgt Arg	cca Pro	att Ile	5454
ttc Phe 1820	ggt Gly	aac Asn	ttt Phe	aat Asn	tcg Ser	tcc Ser 1825	aag Lys	acg Thr	gcc Ala	att Ile	gca Ala 1830	ctg Leu	aaa Lys	gag Glu	5499
gcg Ala 1835	agg Arg	gga Gly	gca Ala	tcc Ser	tca Ser	tcg Ser 1840	atg Met	tac Tyr	tat Tyr	ctt Leu	gag Glu 1845	tca Ser	acc Thr	gag Glu	5544
acg Thr 1850	tgt Cys	gat Asp	tcg Ser	tta Leu	gaa Glu	gac Asp 1855	gct Ala	cgt Arg	cat His	gct Ala	gga Gly 1860	aaa Lys	gca Ala	act Thr	5589
gtt Val 1865	cgt Arg	gtt Val	cgc Arg	tac Tyr	gct Ala	ctt Leu 1870	ccc Pro	cag Gln	gca Ala	att Ile	cgc Arg 1875	gtg Val	ggc Gly	cat His	5634
ctc Leu 1880	gga Gly	tac Tyr	ttc Phe	cat His	gtc Val	gtg Val 1885	cag Gln	ggc Gly	agt Ser	att Ile	ctg Leu 1890	gag Glu	aat Asn	aca Thr	5679
tgt Cys 1895	gag Glu	gtg Val	cct Pro	gta Val	gtc Val	gcc Ala 1900	ctg Leu	gct Ala	gag Glu	aag Lys	aat Asn 1905	gga Gly	tct Ser	ata Ile	5724
ctg Leu 1910	cat His	gta Val	ccg Pro	aga Arg	aac Asn	tac Tyr 1915	atg Met	cat His	agt Ser	ctg Leu	ccc Pro 1920	gat Asp	aac Asn	atg Met	5769
gcg Ala 1925	gaa Glu	ggc Gly	gag Glu	gat Asp	agt Ser	tcc Ser 1930	ttc Phe	ttg Leu	ttg Leu	tcc Ser	aca Thr 1935	gct Ala	gca Ala	gcc Ala	5814
ctc Leu 1940	ctt Leu	gcc Ala	gaa Glu	aca Thr	att Ile	ctc Leu 1945	tct Ser	agc Ser	gct Ala	cag Gln	tcc Ser 1950	ttt Phe	ggc Gly	tct Ser	5859
gat Asp 1955	gca Ala	tca Ser	att Ile	ctg Leu	att Ile	atg Met 1960	gag Glu	ccc Pro	cca Pro	atc Ile	ttc Phe 1965	tgc Cys	gtc Val	aaa Lys	5904
gca Ala 1970	att Ile	ctg Leu	gag Glu	tcg Ser	gcc Ala	aaa Lys 1975	acc Thr	tac Tyr	ggt Gly	gtt Val	cag Gln 1980	gtt Val	cat His	ttg Leu	5949
gca Ala 1985	aca Thr	act Thr	ctg Leu	tcc Ser	gac Asp	gtc Val 1990	aaa Lys	act Thr	att Ile	ccg Pro	gct Ala 1995	cct Pro	tgg Trp	atc Ile	5994
cga Arg 2000	tta Leu	cat His	gcc Ala	aag Lys	gaa Glu	acc Thr 2005	gac Asp	gct Ala	cgg Arg	ctg Leu	aaa Lys 2010	cac His	agc Ser	ctg Leu	6039
ccg Pro	aca Thr	aac Asn	atg Met	atg Met	gca Ala	ttc Phe	ttt Phe	gac Asp	ttg Leu	tct Ser	acc Thr	gac Asp	cgg Arg	act Thr	6084

2015						2020						2025						
gct Ala	gcc Ala	ggg Gly	ata Ile	acc Thr	aac Asn	cgt Arg	ttg Leu	gcc Ala	aag Lys	ttg Leu	cta Leu	cca Pro	ccc Pro	agt Ser	6129			
2030						2035						2040						
tgc Cys	ttc Phe	atg Met	tac Tyr	agt Ser	ggg Gly	gac Asp	tat Tyr	ctt Leu	atc Ile	cga Arg	agt Ser	aca Thr	gct Ala	tcc Ser	6174			
2045						2050						2055						
aca Thr	tac Tyr	aaa Lys	gtt Val	agt Ser	cat His	gtt Val	gag Glu	gat Asp	att Ile	cca Pro	atc Ile	ctc Leu	gag Glu	cac His	6219			
2060						2065						2070						
tct Ser	gtg Val	gca Ala	atg Met	gca Ala	aaa Lys	aat Asn	acc Thr	gtc Val	tct Ser	gcg Ala	tcg Ser	act Thr	gtc Val	gac Asp	6264			
2075						2080						2085						
gac Asp	act Thr	gag Glu	aaa Lys	gtt Val	att Ile	aca Thr	gcc Ala	aca Thr	caa Gln	att Ile	ctc Leu	ttg Leu	cct Pro	ggg Gly	6309			
2090						2095						2100						
cag Gln	ctc Leu	tct Ser	gtc Val	aac Asn	cac His	aat Asn	gac Asp	caa Gln	cgc Arg	ttc Phe	aat Asn	ctg Leu	gcc Ala	acc Thr	6354			
2105						2110						2115						
gtc Val	atc Ile	gac Asp	tgg Trp	aag Lys	gaa Glu	aat Asn	gag Glu	gtg Val	tcc Ser	gct Ala	agg Arg	att Ile	tgc Cys	ccc Pro	6399			
2120						2125						2130						
atc Ile	gac Asp	tct Ser	ggg Gly	aac Asn	tta Leu	ttt Phe	tcc Ser	aac Asn	aag Lys	aag Lys	acg Thr	tat Tyr	ttg Leu	ctt Leu	6444			
2135						2140						2145						
gtt Val	ggg Gly	ctt Leu	acc Thr	ggg Gly	gac Asp	ctt Leu	ggg Gly	cgc Arg	tct Ser	ctc Leu	tgt Cys	cgc Arg	tgg Trp	atg Met	6489			
2150						2155						2160						
atc Ile	ttg Leu	cat His	ggc Gly	gcc Ala	cgc Arg	cat His	gtt Val	gtg Val	ctc Leu	act Thr	agc Ser	cgg Arg	aac Asn	cct Pro	6534			
2165						2170						2175						
cga Arg	ctt Leu	gat Asp	ccc Pro	aaa Lys	tgg Trp	atc Ile	gcc Ala	aac Asn	atg Met	gag Glu	gca Ala	ctt Leu	ggg Gly	ggg Gly	6579			
2180						2185						2190						
gac Asp	atc Ile	acc Thr	gtt Val	ctg Leu	tca Ser	atg Met	gat Asp	gtt Val	gcc Ala	aat Asn	gag Glu	gat Asp	tca Ser	gtc Val	6624			
2195						2200						2205						
gat Asp	gct Ala	ggc Gly	ctt Leu	ggc Gly	aag Lys	ctt Leu	gtc Val	gat Asp	atg Met	aag Lys	ttg Leu	cca Pro	cct Pro	gtt Val	6669			
2210						2215						2220						
gcc Ala	ggc Gly	atc Ile	gcg Ala	ttc Phe	ggg Gly	cct Pro	ttg Leu	gtg Val	ctg Leu	cag Gln	gat Asp	gtc Val	atg Met	ctg Leu	6714			
2225						2230						2235						
aag Lys	aac Asn	atg Met	gac Asp	cac His	cag Gln	atg Met	atg Met	gac Asp	atg Met	gtg Val	ttg Leu	aag Lys	ccc Pro	aag Lys	6759			
2240						2245						2250						
gta Val	caa Gln	gga Gly	gca Ala	cgc Arg	att Ile	ctt Leu	cat His	gaa Glu	cgg Arg	ttc Phe	tcc Ser	gaa Glu	cag Gln	acg Thr	6804			
2255						2260						2265						
ggc Gly	agc Ser	aag Lys	gcg Ala	ctc Leu	gac Asp	ttc Phe	ttc Phe	atc Ile	atg Met	ttt Phe	tcg Ser	tcc Ser	att Ile	gtt Val	6849			
2270						2275						2280						

gca Ala	gtt Val	att Ile	ggc Gly	aat Asn	cct Pro	ggc Gly	cag Gln	tcc Ser	aac Asn	tat Tyr	ggc Gly	gct Ala	gcg Ala	aat Asn	6894
2285						2290					2295				
gcc Ala	tac Tyr	cta Leu	cag Gln	gct Ala	ctg Leu	gcc Ala	cag Gln	caa Gln	cgg Arg	tgc Cys	gcc Ala	aga Arg	gga Gly	ttg Leu	6939
2300						2305					2310				
gcg Ala	gga Gly	tca Ser	acc Thr	atc Ile	gat Asp	att Ile	ggg Gly	gcc Ala	gtt Val	tac Tyr	ggg Gly	gta Val	ggg Gly	ttt Phe	6984
2315						2320					2325				
gtc Val	acg Thr	agg Arg	gcc Ala	gag Glu	atg Met	gag Glu	gag Glu	gac Asp	ttt Phe	gat Asp	gct Ala	atc Ile	cgt Arg	ttc Phe	7029
2330						2335					2340				
atg Met	ttt Phe	gac Asp	tca Ser	gtt Val	gaa Glu	gag Glu	cat His	gag Glu	ctg Leu	cac His	acg Thr	ctt Leu	ttc Phe	gcc Ala	7074
2345						2350					2355				
gaa Glu	gcg Ala	gtc Val	gtg Val	tct Ser	gac Asp	cag Gln	cgt Arg	gcc Ala	cgg Arg	cag Gln	caa Gln	cca Pro	cag Gln	cgc Arg	7119
2360						2365					2370				
aag Lys	acg Thr	gtc Val	att Ile	gac Asp	atg Met	gcg Ala	gac Asp	ctt Leu	gag Glu	ctt Leu	acc Thr	acg Thr	ggg Gly	atc Ile	7164
2375						2380					2385				
cca Pro	gat Asp	ctt Leu	gac Asp	cct Pro	gcg Ala	ctt Leu	caa Gln	gat Asp	cga Arg	att Ile	att Ile	tac Tyr	ttc Phe	aac Asn	7209
2390						2395					2400				
gac Asp	cct Pro	cgt Arg	ttc Phe	gga Gly	aac Asn	ttc Phe	aaa Lys	att Ile	ccc Pro	ggg Gly	caa Gln	cgc Arg	gga Gly	gac Asp	7254
2405						2410					2415				
ggg Gly	ggc Gly	gac Asp	aat Asn	gga Gly	tca Ser	ggg Gly	tct Ser	aaa Lys	ggc Gly	tcc Ser	att Ile	gcc Ala	gac Asp	cag Gln	7299
2420						2425					2430				
ctc Leu	aaa Lys	caa Gln	gca Ala	aca Thr	act Thr	tta Leu	gac Asp	caa Gln	gtt Val	cgg Arg	caa Gln	atc Ile	gtg Val	att Ile	7344
2435						2440					2445				
gat Asp	ggg Gly	cta Leu	tct Ser	gag Glu	aaa Lys	ctc Leu	cgt Arg	gtt Val	acc Thr	ctc Leu	caa Gln	gtt Val	tcg Ser	gac Asp	7389
2450						2455					2460				
ggg Gly	gag Glu	agc Ser	gtg Val	gac Asp	cca Pro	acc Thr	att Ile	cct Pro	ctc Leu	att Ile	gat Asp	caa Gln	ggg Gly	gtc Val	7434
2465						2470					2475				
gac Asp	tcc Ser	ttg Leu	ggg Gly	gca Ala	gtg Val	act Thr	gtc Val	ggc Gly	tca Ser	tgg Trp	ttc Phe	tca Ser	aag Lys	caa Gln	7479
2480						2485					2490				
ctc Leu	tac Tyr	ctt Leu	gac Asp	ctc Leu	cca Pro	ctc Leu	ttg Leu	agg Arg	gta Val	ctt Leu	ggc Gly	ggg Gly	gct Ala	tct Ser	7524
2495						2500					2505				
gtc Val	gct Ala	gat Asp	ctt Leu	gcc Ala	gac Asp	gac Asp	gcg Ala	gcc Ala	acc Thr	cga Arg	ctc Leu	cca Pro	gct Ala	aca Thr	7569
2510						2515					2520				
tcc Ser	att Ile	ccg Pro	ctg Leu	ctg Leu	ttg Leu	caa Gln	att Ile	ggg Gly	gat Asp	tcc Ser	acg Thr	gga Gly	acc Thr	tcg Ser	7614
2525						2530					2535				
gac Asp	agc Ser	ggg Gly	gct Ala	tct Ser	ccg Pro	aca Thr	cca Pro	aca Thr	gac Asp	agc Ser	cat His	gat Asp	gaa Glu	gca Ala	7659

2540						2545						2550						
agc Ser	tct Ser 2555	gct Ala	acc Thr	agc Ser	aca Thr	gat Asp 2560	gcg Ala	tgc Ser	tca Ser	gcc Ala	gaa Glu 2565	gag Glu	gat Asp	gaa Glu	7704			
gag Glu	caa Gln 2570	gag Glu	gac Asp	gat Asp	aat Asn	gag Glu 2575	cag Gln	gga Gly	ggc Gly	cgt Arg	aag Lys 2580	att Ile	ctt Leu	cgt Arg	7749			
cgc Arg	gag Glu 2585	agg Arg	ttg Leu	tcc Ser	ctt Leu	ggc Gly 2590	cag Gln	gag Glu	tat Tyr	tcc Ser	tgg Trp 2595	agg Arg	cag Gln	caa Gln	7794			
caa Gln	atg Met 2600	gta Val	aaa Lys	gat Asp	cat His	acc Thr 2605	atc Ile	ttc Phe	aac Asn	aac Asn	act Thr 2610	att Ile	ggc Gly	atg Met	7839			
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aaa Lys	gcc Ala 2630	tca Ser	ttg Leu	cgc Arg	cgt Arg	cac His 2635	gag Glu	atc Ile	ttc Phe	cgt Arg	acg Thr 2640	tgc Cys	ttt Phe	gtt Val	7929			
act Thr	ggc Gly 2645	gat Asp	gac Asp	tat Tyr	agc Ser	agc Ser 2650	gat Asp	tta Leu	aat Asn	ggg Gly	ccc Pro 2655	gtc Val	caa Gln	gtg Val	7974			
gtt Val	ctc Leu 2660	aag Lys	aac Asn	ccg Pro	gag Glu	aac Asn 2665	aga Arg	gtg Val	cac His	ttt Phe	gtt Val 2670	cag Gln	gtg Val	aac Asn	8019			
aac Asn	gct Ala 2675	gcg Ala	gag Glu	gca Ala	gag Glu	gaa Glu 2680	gag Glu	tac Tyr	cgg Arg	aaa Lys	ctc Leu 2685	gag Glu	aag Lys	aca Thr	8064			
aac Asn	tat Tyr 2690	agc Ser	atc Ile	tcc Ser	aca Thr	ggg Gly 2695	gac Asp	act Thr	ctc Leu	aga Arg	ctc Leu 2700	gtt Val	gat Asp	ttc Phe	8109			
tac Tyr	tgg Trp 2705	ggc Gly	aca Thr	gat Asp	gac Asp	cac His 2710	ctg Leu	ttg Leu	gta Val	atc Ile	ggc Gly 2715	tac Tyr	cac His	aga Arg	8154			
tta Leu	gtt Val 2720	ggg Gly	gat Asp	ggc Gly	tca Ser	aca Thr 2725	aca Thr	gaa Glu	aac Asn	ctg Leu	ttc Phe 2730	aat Asn	gag Glu	atc Ile	8199			
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cga Arg	atg Met 2765	ggg Gly	gac Asp	gat Asp	atc Ile	gcg Ala 2770	ttc Phe	tgg Trp	aag Lys	tcc Ser	atg Met 2775	cat His	agc Ser	aaa Lys	8334			
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 Leu Leu Lys Glu Pro Arg Asp Val Gln Thr Lys Ile Pro Lys Glu Arg
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 Phe Asp Val Asp Thr Phe Tyr Ser Pro Asp Gly Thr His Pro Gly Arg
 50 55 60
 Thr Asn Ala Pro Phe Ala Tyr Leu Leu Gln Glu Asp Leu Arg Gly Phe
 65 70 75 80
 Asp Ala Ser Phe Phe Asn Ile Gln Ala Gly Glu Ala Glu Thr Ile Asp
 85 90 95
 Pro Gln Gln Arg Leu Leu Leu Glu Thr Val Tyr Glu Ala Val Ser Asn
 100 105 110
 Ala Gly Leu Arg Ile Gln Gly Leu Gln Gly Ser Ser Thr Ala Val Tyr
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 Val Gly Met Met Thr His Asp Tyr Glu Thr Ile Val Thr Arg Glu Leu
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 Asp Ser Ile Pro Thr Tyr Ser Ala Thr Gly Val Ala Val Ser Val Ala
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 Ser Asn Arg Val Ser Tyr Phe Phe Asp Trp His Gly Pro Ser Met Thr
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 Met Leu Ser Pro Asn Gly Arg Ser Arg Met Trp Asp Ala Ala Ala Asp
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 Gly Tyr Ala Arg Gly Glu Gly Val Cys Ser Ile Val Leu Lys Thr Leu
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 Ser Gln Ala Leu Arg Asp Gly Asp Ser Ile Glu Cys Val Ile Arg Glu
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 Thr Gly Ile Asn Gln Asp Gly Arg Thr Thr Gly Ile Thr Met Pro Asn
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His Ser Ala Gln Glu Ala Leu Ile Arg Ala Thr Tyr Ala Lys Ala Gly
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Gly Thr Gly Thr Pro Ala Gly Asp Pro Gln Glu Ala Glu Ala Ile Ala
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Ser Pro Ser Gly Gln Thr Gly Ala Met Leu Ala Ala Gly Met Ser Tyr
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Cys Val Ala Ala Ser Asn Ser Pro Asp Ser Val Thr Phe Ser Gly Asp
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Met Asp Ala Ile Gln His Val Glu Gly Val Leu Glu Asp Glu Ser Thr
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Phe Ala Arg Ile Leu Arg Val Asp Lys Ala Tyr His Ser His His Met
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His Pro Cys Ala Ala Pro Tyr Val Lys Ala Leu Leu Glu Cys Asp Cys
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Gln His Leu Arg Gly Gly Ala Pro His Leu Leu Leu Gly Lys Leu Ser
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Ser Tyr Ser Thr Ala Ser Thr Phe Gln Trp Thr Asn Phe Ile Arg Pro
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Phe Pro Ala Ala Gly Tyr Ile Ile Met Ala Met Glu Ala Ala Met Lys
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Phe Tyr Arg Glu Leu Asp Leu Leu Gly Tyr Asp Tyr Ser Lys Asp
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Ala 2030	Ala	Gly	Ile	Thr	Asn	Arg 2035	Leu	Ala	Lys	Leu	Leu 2040		Pro	Pro	Ser
Cys 2045	Phe	Met	Tyr	Ser	Gly	Asp 2050	Tyr	Leu	Ile	Arg	Ser 2055		Thr	Ala	Ser
Thr 2060	Tyr	Lys	Val	Ser	His	Val 2065	Glu	Asp	Ile	Pro	Ile 2070		Leu	Glu	His
Ser 2075	Val	Ala	Met	Ala	Lys	Asn 2080	Thr	Val	Ser	Ala	Ser 2085		Thr	Val	Asp
Asp 2090	Thr	Glu	Lys	Val	Ile	Thr 2095	Ala	Thr	Gln	Ile	Leu 2100		Leu	Pro	Gly
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Arg	Met	Gly	Asp	Asp	Ile	Ala	Phe	Trp	Lys	Ser	Met	His	Ser	Lys
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Val	Ser	Ser	Ser	Ala	Pro	Thr	Val	Leu	Pro	Ile	Met	Asn	Leu	Ile
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Asn	Asp	Pro	Ala	Ala	Asn	Ser	Glu	Gln	Gln	Gln	Ile	Gln	Pro	Phe
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145 150 155 160

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Leu	Asn	Arg	Asp	Pro	Glu	Thr	Val	Pro	Arg	Tyr	Phe	Ile	Thr	Gly	Asn	
				165					170					175		
tca	gga	aca	atg	ctt	tcg	aac	cgg	ata	tca	cac	ttc	tac	gac	tta	cgt	576
Ser	Gly	Thr	Met	Leu	Ser	Asn	Arg	Ile	Ser	His	Phe	Tyr	Asp	Leu	Arg	
			180					185					190			
ggt	ccc	agc	gtg	acg	gtt	gac	acg	gcc	tgt	tcg	acg	aca	ttg	acc	gca	624
Gly	Pro	Ser	Val	Thr	Val	Asp	Thr	Ala	Cys	Ser	Thr	Thr	Leu	Thr	Ala	
		195					200					205				
ctg	cac	ttg	gcg	tgc	cag	agc	tta	cgt	act	ggg	gag	tca	gat	aca	gcc	672
Leu	His	Leu	Ala	Cys	Gln	Ser	Leu	Arg	Thr	Gly	Glu	Ser	Asp	Thr	Ala	
	210					215					220					
atc	gtt	atc	ggt	gca	aat	ctt	ctg	ctc	aat	ccc	gat	gtt	ttt	gtt	acg	720
Ile	Val	Ile	Gly	Ala	Asn	Leu	Leu	Leu	Asn	Pro	Asp	Val	Phe	Val	Thr	
225					230					235					240	
atg	tca	aac	ctg	gga	ttt	ttg	tcc	ccg	gat	ggt	atc	tcg	tac	tct	ttt	768
Met	Ser	Asn	Leu	Gly	Phe	Leu	Ser	Pro	Asp	Gly	Ile	Ser	Tyr	Ser	Phe	
				245					250					255		
gat	cct	cga	gcg	aat	gga	tat	ggt	cgc	ggg	gaa	gga	att	gcc	gct	ctg	816
Asp	Pro	Arg	Ala	Asn	Gly	Tyr	Gly	Arg	Gly	Glu	Gly	Ile	Ala	Ala	Leu	
			260					265					270			
gta	ata	aag	gcc	ctc	cct	aac	gcg	ttg	cga	gac	caa	gac	cct	atc	cga	864
Val	Ile	Lys	Ala	Leu	Pro	Asn	Ala	Leu	Arg	Asp	Gln	Asp	Pro	Ile	Arg	
		275					280					285				
gcc	gtc	att	cga	gag	aca	gcg	ctg	aac	cag	gat	ggc	aaa	aca	ccc	gca	912
Ala	Val	Ile	Arg	Glu	Thr	Ala	Leu	Asn	Gln	Asp	Gly	Lys	Thr	Pro	Ala	
	290					295					300					
att	act	gcg	ccg	agt	gat	gtg	gcg	cag	aaa	agt	ctg	atc	cag	gag	tgt	960
Ile	Thr	Ala	Pro	Ser	Asp	Val	Ala	Gln	Lys	Ser	Leu	Ile	Gln	Glu	Cys	
305					310					315					320	
tac	gat	aag	gct	ggg	cta	gat	atg	tcg	ttg	acc	tcg	tac	gtg	gag	gcc	1008
Tyr	Asp	Lys	Ala	Gly	Leu	Asp	Met	Ser	Leu	Thr	Ser	Tyr	Val	Glu	Ala	
				325					330					335		
cac	gga	act	gga	aca	cca	act	ggt	gac	ccc	ctt	gaa	atc	tca	gca	att	1056
His	Gly	Thr	Gly	Thr	Pro	Thr	Gly	Asp	Pro	Leu	Glu	Ile		Ala	Ile	
			340					345					350			
tca	gca	gct	ttt	aaa	gga	cat	cct	ctg	cac	ctt	ggc	tct	gtg	aaa	gca	1104
Ser	Ala	Ala	Phe	Lys	Gly	His	Pro	Leu	His	Leu	Gly	Ser	Val	Lys	Ala	
		355					360				365					
aat	att	ggc	cat	aca	gaa	gcc	gcc	agt	ggc	ctg	gcc	agt	ata	atc	aag	1152
Asn	Ile	Gly	His	Thr	Glu	Ala	Ala	Ser	Gly	Leu	Ala	Ser	Ile	Ile	Lys	
	370					375					380					
gtg	gcc	ttg	gcc	ttg	gag	aag	ggc	ttg	att	ccc	cct	aat	gcg	cgg	ttc	1200
Val	Ala	Leu	Ala	Leu	Glu	Lys	Gly	Leu	Ile	Pro	Pro	Asn	Ala	Arg	Phe	
385					390					395					400	
ctg	caa	aag	aac	agc	aag	ctg	atg	ctt	gac	caa	aag	aac	atc	aag	atc	1248
Leu	Gln	Lys	Asn	Ser	Lys	Leu	Met	Leu	Asp	Gln	Lys	Asn	Ile	Lys	Ile	
			405						410					415		
ccc	atg	tct	gct	caa	gac	tggt	cct	gtg	aaa	gat	ggg	act	cgt	cgc	gca	1296
Pro	Met	Ser	Ala	Gln	Asp	Trp	Pro	Val	Lys	Asp	Gly	Thr	Arg	Arg	Ala	
			420					425					430			
tct	gtc	aat	aac	ttc	ggc	ttt	ggt	ggt	tcg	aat	gct	cac	gtc	att	ttg	1344
Ser	Val	Asn	Asn	Phe	Gly	Phe	Gly	Gly	Ser	Asn	Ala	His	Val	Ile	Leu	

435					440					445						
gaa	tca	tat	gat	cgc	gca	tca	ttg	gcc	ctg	cca	gag	gat	caa	gtg	cat	1392
Glu	Ser	Tyr	Asp	Arg	Ala	Ser	Leu	Ala	Leu	Pro	Glu	Asp	Gln	Val	His	
450						455					460					
gtc	aat	ggg	aac	tct	gag	cat	ggg	agg	gtt	gag	gat	ggg	tcc	aaa	cag	1440
Val	Asn	Gly	Asn	Ser	Glu	His	Gly	Arg	Val	Glu	Asp	Gly	Ser	Lys	Gln	
465					470					475					480	
agc	cgc	ata	tac	gtt	gtg	cgt	gcc	aag	gac	gag	caa	gct	tgt	cgg	cga	1488
Ser	Arg	Ile	Tyr	Val	Val	Arg	Ala	Lys	Asp	Glu	Gln	Ala	Cys	Arg	Arg	
				485					490					495		
acg	ata	gca	agc	ctg	cga	gac	tac	att	aaa	tcc	gtc	gct	gac	att	gac	1536
Thr	Ile	Ala	Ser	Leu	Arg	Asp	Tyr	Ile	Lys	Ser	Val	Ala	Asp	Ile	Asp	
			500					505					510			
ggg	gaa	ccc	ttc	ctc	gcc	agc	ctc	gcc	tat	aca	cta	ggc	tct	cgc	cgt	1584
Gly	Glu	Pro	Phe	Leu	Ala	Ser	Leu	Ala	Tyr	Thr	Leu	Gly	Ser	Arg	Arg	
		515					520					525				
tcc	att	ctg	cca	tgg	acg	tca	gtg	tat	gta	gca	gac	agc	ctt	ggc	ggc	1632
Ser	Ile	Leu	Pro	Trp	Thr	Ser	Val	Tyr	Val	Ala	Asp	Ser	Leu	Gly	Gly	
	530					535					540					
ctt	gtt	tct	gcc	ctc	agc	gat	gag	tcc	aat	caa	cca	aaa	cga	gcg	aat	1680
Leu	Val	Ser	Ala	Leu	Ser	Asp	Glu	Ser	Asn	Gln	Pro	Lys	Arg	Ala	Asn	
545					550					555					560	
gag	aaa	gta	cgg	ctc	gga	ttt	gta	ttc	acc	ggg	cag	ggg	gcg	cag	tgg	1728
Glu	Lys	Val	Arg	Leu	Gly	Phe	Val	Phe	Thr	Gly	Gln	Gly	Ala	Gln	Trp	
				565					570					575		
cat	gca	atg	ggc	aga	gag	ctg	gtc	aat	aca	ttc	cca	gta	ttc	aaa	cag	1776
His	Ala	Met	Gly	Arg	Glu	Leu	Val	Asn	Thr	Phe	Pro	Val	Phe	Lys	Gln	
			580					585					590			
gcg	att	ctt	gaa	tgt	gat	ggc	tac	atc	aag	caa	ctg	ggc	gcg	agt	tgg	1824
Ala	Ile	Leu	Glu	Cys	Asp	Gly	Tyr	Ile	Lys	Gln	Leu	Gly	Ala	Ser	Trp	
		595					600					605				
aat	ttt	atg	gag	gag	ctc	cac	cgt	gat	gag	ctg	acg	act	cgg	gta	aat	1872
Asn	Phe	Met	Glu	Glu	Leu	His	Arg	Asp	Glu	Leu	Thr	Thr	Arg	Val	Asn	
	610					615					620					
gat	gcc	gaa	tac	agt	cta	cca	ctg	tca	acc	gct	atc	caa	att	gca	ctt	1920
Asp	Ala	Glu	Tyr	Ser	Leu	Pro	Leu	Ser	Thr	Ala	Ile	Gln	Ile	Ala	Leu	
625					630					635					640	
gtg	cgt	ctc	ctt	tgg	tca	tgg	gga	att	cgg	cca	acg	ggg	ata	acc	agt	1968
Val	Arg	Leu	Leu	Trp	Ser	Trp	Gly	Ile	Arg	Pro	Thr	Gly	Ile	Thr	Ser	
				645					650					655		
cac	tca	agt	gga	gag	gct	gct	gct	gcc	tac	gca	gct	ggg	gct	tta	tcc	2016
His	Ser	Ser	Gly	Glu	Ala	Ala	Ala	Ala	Tyr	Ala	Ala	Gly	Ala	Leu	Ser	
			660					665					670			
gcg	cgg	tcg	gcc	att	ggg	atc	act	tat	ata	cgc	ggg	gta	ttg	acc	act	2064
Ala	Arg	Ser	Ala	Ile	Gly	Ile	Thr	Tyr	Ile	Arg	Gly	Val	Leu	Thr	Thr	
		675					680					685				
aag	ccc	aag	ccc	gca	ttg	gca	gcc	aaa	gga	gga	atg	atg	gcg	gtg	ggg	2112
Lys	Pro	Lys	Pro	Ala	Leu	Ala	Ala	Lys	Gly	Gly	Met	Met	Ala	Val	Gly	
	690					695					700					
ctt	ggg	cgc	agt	gag	acc	aat	gtt	tac	att	tcg	cgt	ctc	aac	cag	gag	2160
Leu	Gly	Arg	Ser	Glu	Thr	Asn	Val	Tyr	Ile	Ser	Arg	Leu	Asn	Gln	Glu	
705					710					715					720	

T02T40-5029E860

gac Asp	ggc Gly	tgt Cys	gtg Val	gtg Val 725	gtt Val	gga Gly	tgt Cys	atc Ile	aac Asn 730	agt Ser	caa Gln	tgt Cys	agt Ser	gtg Val 735	acg Thr	2208
gtg Val	tcg Ser	gga Gly	gat Asp 740	ttg Leu	ggt Gly	gca Ala	atc Ile	gag Glu 745	aaa Lys	ctt Leu	gaa Glu	aag Lys	ttg Leu 750	tta Leu	cac His	2256
gcc Ala	gat Asp	ggc Gly 755	atc Ile	ttt Phe	acc Thr	agg Arg	aaa Lys 760	ctg Leu	aaa Lys	gtc Val	act Thr	gaa Glu 765	gcc Ala	ttc Phe	cat His	2304
tca Ser	agc Ser 770	cac His	atg Met	cga Arg	cca Pro	atg Met 775	gca Ala	gat Asp	gcc Ala	ttt Phe	ggg Gly 780	gcg Ala	tca Ser	ctg Leu	aga Arg	2352
gat Asp 785	ctg Leu	ttc Phe	aac Asn	tcg Ser	gat Asp 790	aac Asn	aac Asn	aac Asn	gac Asp 795	aat Asn 795	ccc Pro	aat Asn	gct Ala	gac Asp	acc Thr 800	2400
tca Ser	aag Lys	ggt Gly	gta Val	tta Leu 805	tat Tyr	tca Ser	tca Ser	cct Pro	aag Lys 810	act Thr	ggt Gly	agt Ser	cgc Arg	atg Met 815	acc Thr	2448
gat Asp	ctt Leu	aaa Lys	ttg Leu 820	cta Leu	ttg Leu	gat Asp	ccc Pro	aca Thr 825	cac His	tgg Trp	atg Met	gat Asp	agt Ser 830	atg Met	cta Leu	2496
cag Gln	ccg Pro	gta Val 835	gag Glu	ttc Phe	gag Glu	tcc Ser	tca Ser 840	ctc Leu	cgc Arg	gag Glu	atg Met	tgc Cys 845	ttt Phe	gat Asp	ccc Pro	2544
aac Asn 850	acc Thr	aaa Lys	gag Glu	aaa Lys	gcc Ala	gtc Val 855	gat Asp	gtg Val	att Ile	att Ile	gaa Glu 860	ata Ile	ggg Gly	cct Pro	cac His	2592
gga Gly 865	gcg Ala	ctt Leu	ggt Gly	ggt Gly	cca Pro 870	atc Ile	aac Asn	caa Gln	gtc Val	atg Met 875	cag Gln	gat Asp	ctg Leu	ggt Gly	ctg Leu 880	2640
aaa Lys	gga Gly	aca Thr	gat Asp	ata Ile 885	aac Asn	tat Tyr	ctc Leu	agt Ser	tgc Cys 890	ctt Leu	tct Ser	cgc Arg	ggc Gly	aga Arg 895	agc Ser	2688
tcg Ser	ttg Leu	gag Glu	aca Thr 900	atg Met	tat Tyr	cgt Arg	gct Ala	gct Ala 905	acg Thr	gag Glu	ttg Leu	ata Ile	agc Ser 910	aag Lys	ggt Gly	2736
tat Tyr	ggg Gly	ctc Leu 915	aaa Lys	atg Met	gac Asp	gct Ala	ata Ile 920	aac Asn	ttt Phe	cct Pro	cat His	gga Gly 925	aga Arg	aaa Lys	gag Glu	2784
ccc Pro 930	aga Arg	gtg Val	aag Lys	gta Val	ctg Leu	agc Ser 935	gat Asp	ttg Leu	ccg Pro	gcg Ala	tac Tyr 940	ccg Pro	tgg Trp	aat Asn	cac His	2832
caa Gln 945	acc Thr	cgt Arg	tat Tyr	tgg Trp	aga Arg 950	gag Glu	cct Pro	cgc Arg	ggc Gly	agt Ser 955	cgt Arg	gag Glu	tcc Ser	aaa Lys	cag Gln 960	2880
aga Arg	acc Thr	cat His	ccg Pro	cct Pro 965	cac His	act Thr	ttg Leu	ata Ile	ggc Gly 970	tca Ser	cgg Arg	gaa Glu	tct Ser	ctc Leu 975	tct Ser	2928
cct Pro	cat His	ttc Phe	gcg Ala 980	cct Pro	aaa Lys	tgg Trp	aaa Lys	cat His 985	gtt Val	ctc Leu	cgt Arg	ctg Leu	tca Ser 990	gat Asp	att Ile	2976
cca Pro	tgg Trp	ata Ile	cga Arg	gat Asp	cac His	gtc Val	gtt Val	ggg Gly	tcg Ser	agc Ser	atc Ile	atc Ile	ttt Phe	ccg Pro	gga Gly	3024

995						1000					1005					
gct Ala	ggc Gly 1010	ttc Phe	atc Ile	agc Ser	atg Met	gcc Ala 1015	atc Ile	gag Glu	ggg Gly	ttt Phe	tca Ser 1020	caa Gln	gtc Val	tgc Cys	3069	
cca Pro	cca Pro 1025	gtt Val	gcg Ala	ggg Gly	gct Ala	agc Ser 1030	atc Ile	aac Asn	tac Tyr	aac Asn	ttg Leu 1035	cgt Arg	gac Asp	gtt Val	3114	
gaa Glu	ctc Leu 1040	gcg Ala	cag Gln	gct Ala	ctc Leu	ata Ile 1045	ata Ile	ccc Pro	gct Ala	gat Asp	gca Ala 1050	gaa Glu	gca Ala	gag Glu	3159	
gtt Val	gac Asp 1055	ctg Leu	cgc Arg	cta Leu	acg Thr	atc Ile 1060	cgt Arg	tca Ser	tgt Cys	gag Glu	gaa Glu 1065	agg Arg	tcc Ser	ctc Leu	3204	
ggc Gly	aca Thr 1070	aag Lys	aac Asn	tgg Trp	cat His	caa Gln 1075	ttt Phe	tct Ser	gtg Val	cac His	tca Ser 1080	att Ile	tcg Ser	ggc Gly	3249	
gaa Glu	aat Asn 1085	aat Asn	acc Thr	tgg Trp	aca Thr	gaa Glu 1090	cac His	tgc Cys	acc Thr	gga Gly	tta Leu 1095	ata Ile	cgt Arg	tcg Ser	3294	
gag Glu	agc Ser 1100	gaa Glu	aga Arg	agc Ser	cac His	ctt Leu 1105	gac Asp	tgt Cys	tca Ser	act Thr	gtg Val 1110	gaa Glu	gcc Ala	tca Ser	3339	
cgc Arg	agg Arg 1115	ttg Leu	aat Asn	cta Leu	ggc Gly	tca Ser 1120	gat Asp	aac Asn	cgg Arg	agc Ser	att Ile 1125	gat Asp	ccc Pro	aac Asn	3384	
gat Asp	ctc Leu 1130	tgg Trp	gag Glu	tcc Ser	tta Leu	cac His 1135	gcg Ala	aat Asn	ggg Gly	ata Ile	tgc Cys 1140	cac His	gga Gly	ccc Pro	3429	
att Ile	ttt Phe 1145	cag Gln	aac Asn	att Ile	cag Gln	cga Arg 1150	att Ile	caa Gln	aac Asn	aat Asn	gga Gly 1155	cag Gln	ggc Gly	tcg Ser	3474	
ttt Phe	tgc Cys 1160	aga Arg	ttt Phe	tcc Ser	att Ile	gct Ala 1165	gac Asp	act Thr	gcc Ala	tcg Ser	gct Ala 1170	atg Met	cct Pro	cac His	3519	
tcg Ser	tac Tyr 1175	gag Glu	aat Asn	cga Arg	cac His	atc Ile 1180	gtc Val	cat His	cct Pro	act Thr	act Thr 1185	ctg Leu	gac Asp	tcg Ser	3564	
gtg Val	atc Ile 1190	cag Gln	gcg Ala	gca Ala	tac Tyr	acg Thr 1195	gtg Val	tta Leu	ccc Pro	tac Tyr	gcg Ala 1200	gga Gly	aca Thr	cgt Arg	3609	
atg Met	aaa Lys 1205	acg Thr	gcc Ala	atg Met	gta Val	cca Pro 1210	agg Arg	agg Arg	cta Leu	aga Arg	aat Asn 1215	gtc Val	aaa Lys	ata Ile	3654	
tcc Ser	tct Ser 1220	agc Ser	ctg Leu	gct Ala	gac Asp	ttg Leu 1225	gag Glu	gct Ala	ggg Gly	gat Asp	gct Ala 1230	ctg Leu	gac Asp	gca Ala	3699	
cag Gln	gcc Ala 1235	agc Ser	atc Ile	aag Lys	gat Asp	cgc Arg 1240	aac Asn	tct Ser	caa Gln	tcc Ser	ttc Phe 1245	tct Ser	acc Thr	gac Asp	3744	
ttg Leu	gca Ala 1250	gtg Val	ttt Phe	gat Asp	gac Asp	tat Tyr 1255	gat Asp	agc Ser	ggg Gly	tct Ser	tct Ser 1260	ccc Pro	tcg Ser	gac Asp	3789	

gga atc cca gtc ata gag att gaa ggc ctt gtt ttc cag tcg gtt Gly Ile Pro Val Ile Glu Ile Glu Gly Leu Val Phe Gln Ser Val	1265	1270	1275	3834
gga agc agc ttc tct gac caa aag tca gac tcc aac gac aca gaa Gly Ser Ser Phe Ser Asp Gln Lys Ser Asp Ser Asn Asp Thr Glu	1280	1285	1290	3879
aat gcc tgc agc tcc tgg gtt tgg gcc cct gac atc agc ttg ggt Asn Ala Cys Ser Ser Trp Val Trp Ala Pro Asp Ile Ser Leu Gly	1295	1300	1305	3924
gac tcc act tgg ctc aaa gaa aag ttg agc act gag gct gag acg Asp Ser Thr Trp Leu Lys Glu Lys Leu Ser Thr Glu Ala Glu Thr	1310	1315	1320	3969
aaa gaa acg gaa ctc atg atg gac ctc cga aga tgc acg atc aac Lys Glu Thr Glu Leu Met Met Asp Leu Arg Arg Cys Thr Ile Asn	1325	1330	1335	4014
ttt ata cag gag gct gtc act gat ttg aca aat tct gat atc caa Phe Ile Gln Glu Ala Val Thr Asp Leu Thr Asn Ser Asp Ile Gln	1340	1345	1350	4059
cat ctg gat ggc cac ctt cag aag tat ttc gat tgg atg aat gtc His Leu Asp Gly His Leu Gln Lys Tyr Phe Asp Trp Met Asn Val	1355	1360	1365	4104
caa ttg gac ctt gcg aga caa aac aag ctc agc cca gcc agt tgc Gln Leu Asp Leu Ala Arg Gln Asn Lys Leu Ser Pro Ala Ser Cys	1370	1375	1380	4149
gac tgg cta agt gac gat gct gag cag aag aaa tgc cta cag gcc Asp Trp Leu Ser Asp Asp Ala Glu Gln Lys Lys Cys Leu Gln Ala	1385	1390	1395	4194
aga gtc gct gga gaa agc gtc aat ggc gag atg att tct cgt cta Arg Val Ala Gly Glu Ser Val Asn Gly Glu Met Ile Ser Arg Leu	1400	1405	1410	4239
gga cct cag tta ata gca atg cta cgc cgc gaa aca gag cca ctt Gly Pro Gln Leu Ile Ala Met Leu Arg Arg Glu Thr Glu Pro Leu	1415	1420	1425	4284
gag ttg atg atg caa gat cag ctg cta agc aga tac tac gtc aac Glu Leu Met Met Gln Asp Gln Leu Leu Ser Arg Tyr Tyr Val Asn	1430	1435	1440	4329
gca atc aaa tgg agc cga tca aac gca caa gcc agc gag ctg atc Ala Ile Lys Trp Ser Arg Ser Asn Ala Gln Ala Ser Glu Leu Ile	1445	1450	1455	4374
cga ctt tgc gcc cac aag aac ccg cgt tct cgc att ttg gag att Arg Leu Cys Ala His Lys Asn Pro Arg Ser Arg Ile Leu Glu Ile	1460	1465	1470	4419
ggc gga ggc acg ggc ggc tgc aca aag ctt att gtc aat gca ttg Gly Gly Gly Thr Gly Gly Cys Thr Lys Leu Ile Val Asn Ala Leu	1475	1480	1485	4464
gga aac acc aag ccg atc gat cgt tat gac ttc acc gat gtg tct Gly Asn Thr Lys Pro Ile Asp Arg Tyr Asp Phe Thr Asp Val Ser	1490	1495	1500	4509
gcc ggg ttt ttc gag tcg gcg cgt gag caa ttt gcg gat tgg caa Ala Gly Phe Phe Glu Ser Ala Arg Glu Gln Phe Ala Asp Trp Gln	1505	1510	1515	4554
gac gtg atg act ttc aaa aaa ttg gat att gaa agc gat ccc gag Asp Val Met Thr Phe Lys Lys Leu Asp Ile Glu Ser Asp Pro Glu				4599

1520	1525	1530	
caa caa ggg ttt gaa tgt gcc acc tac gat gtg gtc gtg gct tgc Gln Gln Gly Phe Glu Cys Ala Thr Tyr Asp Val Val Val Ala Cys 1535 1540 1545			4644
cag gtc ctg cat gca act cga tgc atg aaa cga aca ctg agt aac Gln Val Leu His Ala Thr Arg Cys Met Lys Arg Thr Leu Ser Asn 1550 1555 1560			4689
gtt cga aaa ttg ctc aag cct ggg ggc aac ttg att ttg gtt gag Val Arg Lys Leu Leu Lys Pro Gly Gly Asn Leu Ile Leu Val Glu 1565 1570 1575			4734
act acc agg gat cag ctc gat ttg ttc ttt acc ttc gga ctg ttg Thr Thr Arg Asp Gln Leu Asp Leu Phe Phe Thr Phe Gly Leu Leu 1580 1585 1590			4779
cca ggt tgg tgg ctc agt gag gag cct gag cgg aag tcg acg cca Pro Gly Trp Trp Leu Ser Glu Glu Pro Glu Arg Lys Ser Thr Pro 1595 1600 1605			4824
tcg ctc act acc gat ctt tgg aac acc atg ttg gac acg agc ggt Ser Leu Thr Thr Asp Leu Trp Asn Thr Met Leu Asp Thr Ser Gly 1610 1615 1620			4869
ttc aac ggt gtg gaa ttg gag gtt cgt gat tgt gaa gac gat gag Phe Asn Gly Val Glu Leu Glu Val Arg Asp Cys Glu Asp Asp Glu 1625 1630 1635			4914
ttt tac atg atc agc aca atg cta tcg acg gct aga aaa gag aat Phe Tyr Met Ile Ser Thr Met Leu Ser Thr Ala Arg Lys Glu Asn 1640 1645 1650			4959
aca acc ccg gat aca gtg gca gaa tcg gag gtg ctt ttg ctg cac Thr Thr Pro Asp Thr Val Ala Glu Ser Glu Val Leu Leu Leu His 1655 1660 1665			5004
gga gcg ctc cga cct cct tca tct tgg ctg gaa agt ctc cag gca Gly Ala Leu Arg Pro Pro Ser Ser Trp Leu Glu Ser Leu Gln Ala 1670 1675 1680			5049
gca att tgt gaa aag acc agt tct agc cca tcg atc aac gct ctg Ala Ile Cys Glu Lys Thr Ser Ser Pro Ser Ile Asn Ala Leu 1685 1690 1695			5094
ggc gag gta gat acc act gga agg aca tgc att ttt ctt ggg gaa Gly Glu Val Asp Thr Thr Gly Arg Thr Cys Ile Phe Leu Gly Glu 1700 1705 1710			5139
atg gag tcc tcg ctc ctt gga gag gtg gga agc gag acc ttc aaa Met Glu Ser Ser Leu Leu Gly Glu Val Gly Ser Glu Thr Phe Lys 1715 1720 1725			5184
tcc atc acc gcg atg ctg aat aac tgc aac gca ctt ctc tgg gtg Ser Ile Thr Ala Met Leu Asn Asn Cys Asn Ala Leu Leu Trp Val 1730 1735 1740			5229
tct aga gga gca gcc atg agc tcc gag gat cca tgg aaa gct cta Ser Arg Gly Ala Ala Met Ser Ser Glu Asp Pro Trp Lys Ala Leu 1745 1750 1755			5274
cat att ggt ctg ctg cgt acc atc cgc aac gaa aat aac ggg aag His Ile Gly Leu Leu Arg Thr Ile Arg Asn Glu Asn Asn Gly Lys 1760 1765 1770			5319
gaa tat gta tcg ttg gat ctc gat cct tct cga aac gca tac acc Glu Tyr Val Ser Leu Asp Leu Asp Pro Ser Arg Asn Ala Tyr Thr 1775 1780 1785			5364

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ggc Gly	gac Asp 1805	ctt Leu	tcc Ser	gaa Glu	gac Asp	aag Lys 1810	gag Glu	ttt Phe	gaa Glu	ttt Phe	gca Ala 1815	gag Glu	aga Arg	aac Asn	5454
ggc Gly	gtc Val 1820	atc Ile	cac His	gta Val	ccg Pro	cga Arg 1825	ctt Leu	ttc Phe	aat Asn	gac Asp	ccg Pro 1830	cac His	tgg Trp	aag Lys	5499
gac Asp	caa Gln 1835	gaa Glu	gcg Ala	gtt Val	gag Glu	gtc Val 1840	aca Thr	ctg Leu	cag Gln	ccg Pro	ttc Phe 1845	gag Glu	caa Gln	ccc Pro	5544
ggg Gly	cgt Arg 1850	cgt Arg	ctg Leu	cgg Arg	atg Met	gag Glu 1855	gtt Val	gag Glu	acg Thr	cca Pro	ggg Gly 1860	ctc Leu	tta Leu	gac Asp	5589
tcc Ser	ctg Leu 1865	caa Gln	ttt Phe	cga Arg	gac Asp	gac Asp 1870	gaa Glu	gga Gly	cgt Arg	gaa Glu	ggc Gly 1875	aag Lys	gat Asp	ctt Leu	5634
ccg Pro	gat Asp 1880	gat Asp	tgg Trp	gta Val	gaa Glu	atc Ile 1885	gaa Glu	ccc Pro	aaa Lys	gct Ala	ttc Phe 1890	ggt Gly	ctc Leu	aat Asn	5679
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gtg Val	atg Met 1910	ggc Gly	ttc Phe	gaa Glu	tgc Cys	gcc Ala 1915	gga Gly	gtg Val	atc Ile	aca Thr	aag Lys 1920	ctc Leu	ggt Gly	gga Gly	5769
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act Thr	aat Asn 1955	gtc Val	gtc Val	cgt Arg	att Ile	ccg Pro 1960	gac Asp	gaa Glu	atg Met	ggc Gly	ttc Phe 1965	cca Pro	gaa Glu	gcc Ala	5904
gct Ala	tcg Ser 1970	gtc Val	ccc Pro	ctg Leu	gct Ala	ttc Phe 1975	act Thr	acc Thr	gca Ala	tat Tyr	att Ile 1980	gcg Ala	ctt Leu	tat Tyr	5949
acc Thr	acg Thr 1985	gca Ala	aag Lys	cta Leu	cga Arg	cga Arg 1990	ggc Gly	gaa Glu	aga Arg	gtc Val	ttg Leu 1995	atc Ile	cac His	agt Ser	5994
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Met	Leu	Pro	Phe	Thr	Arg	Asp	Val	Ser	Phe	Thr	Ser	Ile	Asp	Leu				
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gcg	aag	cac	ttg	att	atc	cta	tcg	aga	agt	gca	aag	gcc	agt	cca	6714			
Ala	Lys	His	Leu	Ile	Ile	Leu	Ser	Arg	Ser	Ala	Lys	Ala	Ser	Pro				
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Asp	Glu	Phe	Asn	Ala	Ala	Thr	Arg	Pro	Lys	Val	Gln	Gly	Ser	Trp				
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Tyr	Leu	His	Lys	Ile	Ala	Gln	Asp	Val	Asp	Phe	Phe	Val	Met	Leu	
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Ser	Ser	Leu	Val	Gly	Val	Met	Gly	Gly	Ala	Gly	Gln	Ala	Asn	Tyr	
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Ala	Ala	Ala	Gly	Ala	Phe	Gln	Asp	Ala	Leu	Ala	His	His	Arg	Arg	
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Ala	His	Trp	Thr	Glu	Ala	Asn	Trp	Ile	Gln	Glu	Gln	Arg	Phe	Val	
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Ser	Ser	His	Lys	Lys	Gly	Pro	Asp	Gly	Val	Arg	Ala	Gln	Leu	Ser	
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 <212> PRT
 <213> Penicillium citrinum

<400> 46

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Ala Thr Ala Met Ala Gly Ser Ala Cys Ser Asn Thr Ser Thr Pro Ile
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Ala Ile Val Gly Met Gly Cys Arg Phe Ala Gly Asp Ala Thr Ser Pro
 35 40 45

Gln Lys Leu Trp Glu Met Val Glu Arg Gly Gly Ser Ala Trp Ser Lys
 50 55 60

Val Pro Ser Ser Arg Phe Asn Val Arg Gly Val Tyr His Pro Asn Gly
 65 70 75 80

Glu Arg Val Gly Ser Thr His Val Lys Gly Gly His Phe Ile Asp Glu
 85 90 95

Asp Pro Ala Leu Phe Asp Ala Ala Phe Phe Asn Met Thr Thr Glu Val
 100 105 110

Ala Ser Cys Met Asp Pro Gln Tyr Arg Leu Met Leu Glu Val Val Tyr
 115 120 125

Glu Ser Leu Glu Ser Ala Gly Ile Thr Ile Asp Gly Met Ala Gly Ser
 130 135 140

Asn Thr Ser Val Phe Gly Gly Val Met Tyr His Asp Tyr Gln Asp Ser
 145 150 155 160

Leu Asn Arg Asp Pro Glu Thr Val Pro Arg Tyr Phe Ile Thr Gly Asn
 165 170 175

Ser Gly Thr Met Leu Ser Asn Arg Ile Ser His Phe Tyr Asp Leu Arg
 180 185 190

Gly Pro Ser Val Thr Val Asp Thr Ala Cys Ser Thr Thr Leu Thr Ala
 195 200 205

Leu His Leu Ala Cys Gln Ser Leu Arg Thr Gly Glu Ser Asp Thr Ala
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Ile Val Ile Gly Ala Asn Leu Leu Leu Asn Pro Asp Val Phe Val Thr
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Met Ser Asn Leu Gly Phe Leu Ser Pro Asp Gly Ile Ser Tyr Ser Phe
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Glu Lys Val Arg Leu Gly Phe Val Phe Thr Gly Gln Gly Ala Gln Trp
565 570 575

His Ala Met Gly Arg Glu Leu Val Asn Thr Phe Pro Val Phe Lys Gln
580 585 590

Ala Ile Leu Glu Cys Asp Gly Tyr Ile Lys Gln Leu Gly Ala Ser Trp
595 600 605

Asn Phe Met Glu Glu Leu His Arg Asp Glu Leu Thr Thr Arg Val Asn
610 615 620

Asp Ala Glu Tyr Ser Leu Pro Leu Ser Thr Ala Ile Gln Ile Ala Leu
625 630 635 640

Val Arg Leu Leu Trp Ser Trp Gly Ile Arg Pro Thr Gly Ile Thr Ser
645 650 655

His Ser Ser Gly Glu Ala Ala Ala Ala Tyr Ala Ala Gly Ala Leu Ser
660 665 670

Ala Arg Ser Ala Ile Gly Ile Thr Tyr Ile Arg Gly Val Leu Thr Thr
675 680 685

Lys Pro Lys Pro Ala Leu Ala Ala Lys Gly Gly Met Met Ala Val Gly
690 695 700

Leu Gly Arg Ser Glu Thr Asn Val Tyr Ile Ser Arg Leu Asn Gln Glu
705 710 715 720

Asp Gly Cys Val Val Val Gly Cys Ile Asn Ser Gln Cys Ser Val Thr
725 730 735

Val Ser Gly Asp Leu Gly Ala Ile Glu Lys Leu Glu Lys Leu Leu His
740 745 750

Ala Asp Gly Ile Phe Thr Arg Lys Leu Lys Val Thr Glu Ala Phe His
755 760 765

Ser Ser His Met Arg Pro Met Ala Asp Ala Phe Gly Ala Ser Leu Arg
770 775 780

Asp Leu Phe Asn Ser Asp Asn Asn Asn Asp Asn Pro Asn Ala Asp Thr
785 790 795 800

Ser Lys Gly Val Leu Tyr Ser Ser Pro Lys Thr Gly Ser Arg Met Thr
805 810 815

FOI b7D 5029E860

Asp Leu Lys Leu Leu Leu Asp Pro Thr His Trp Met Asp Ser Met Leu
820 825 830

Gln Pro Val Glu Phe Glu Ser Ser Leu Arg Glu Met Cys Phe Asp Pro
835 840 845

Asn Thr Lys Glu Lys Ala Val Asp Val Ile Ile Glu Ile Gly Pro His
850 855 860

Gly Ala Leu Gly Gly Pro Ile Asn Gln Val Met Gln Asp Leu Gly Leu
865 870 875 880

Lys Gly Thr Asp Ile Asn Tyr Leu Ser Cys Leu Ser Arg Gly Arg Ser
885 890 895

Ser Leu Glu Thr Met Tyr Arg Ala Ala Thr Glu Leu Ile Ser Lys Gly
900 905 910

Tyr Gly Leu Lys Met Asp Ala Ile Asn Phe Pro His Gly Arg Lys Glu
915 920 925

Pro Arg Val Lys Val Leu Ser Asp Leu Pro Ala Tyr Pro Trp Asn His
930 935 940

Gln Thr Arg Tyr Trp Arg Glu Pro Arg Gly Ser Arg Glu Ser Lys Gln
945 950 955 960

Arg Thr His Pro Pro His Thr Leu Ile Gly Ser Arg Glu Ser Leu Ser
965 970 975

Pro His Phe Ala Pro Lys Trp Lys His Val Leu Arg Leu Ser Asp Ile
980 985 990

Pro Trp Ile Arg Asp His Val Val Gly Ser Ser Ile Ile Phe Pro Gly
995 1000 1005

Ala Gly Phe Ile Ser Met Ala Ile Glu Gly Phe Ser Gln Val Cys
1010 1015 1020

Pro Pro Val Ala Gly Ala Ser Ile Asn Tyr Asn Leu Arg Asp Val
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Glu Leu Ala Gln Ala Leu Ile Ile Pro Ala Asp Ala Glu Ala Glu
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Val Asp Leu Arg Leu Thr Ile Arg Ser Cys Glu Glu Arg Ser Leu
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Gly Thr Lys Asn Trp His Gln Phe Ser Val His Ser Ile Ser Gly
1070 1075 1080

Glu Asn Asn Thr Trp Thr Glu His Cys Thr Gly Leu Ile Arg Ser
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Glu Ser Glu Arg Ser His Leu Asp Cys Ser Thr Val Glu Ala Ser
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 1115 1120 1125
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 Ile Phe Gln Asn Ile Gln Arg Ile Gln Asn Asn Gly Gln Gly Ser
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 Phe Cys Arg Phe Ser Ile Ala Asp Thr Ala Ser Ala Met Pro His
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 Ser Tyr Glu Asn Arg His Ile Val His Pro Thr Thr Leu Asp Ser
 1175 1180 1185
 Val Ile Gln Ala Ala Tyr Thr Val Leu Pro Tyr Ala Gly Thr Arg
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 Met Lys Thr Ala Met Val Pro Arg Arg Leu Arg Asn Val Lys Ile
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 Ser Ser Ser Leu Ala Asp Leu Glu Ala Gly Asp Ala Leu Asp Ala
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 Gln Ala Ser Ile Lys Asp Arg Asn Ser Gln Ser Phe Ser Thr Asp
 1235 1240 1245
 Leu Ala Val Phe Asp Asp Tyr Asp Ser Gly Ser Ser Pro Ser Asp
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 Gly Ser Ser Phe Ser Asp Gln Lys Ser Asp Ser Asn Asp Thr Glu
 1280 1285 1290
 Asn Ala Cys Ser Ser Trp Val Trp Ala Pro Asp Ile Ser Leu Gly
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 Asp Ser Thr Trp Leu Lys Glu Lys Leu Ser Thr Glu Ala Glu Thr
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 Lys Glu Thr Glu Leu Met Met Asp Leu Arg Arg Cys Thr Ile Asn
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 Phe Ile Gln Glu Ala Val Thr Asp Leu Thr Asn Ser Asp Ile Gln
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Ser Leu Thr Thr Asp Leu Trp Asn Thr Met Leu Asp Thr Ser Gly
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Phe Asn Gly Val Glu Leu Glu Val Arg Asp Cys Glu Asp Asp Glu
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 Phe Tyr Met Ile Ser Thr Met Leu Ser Thr Ala Arg Lys Glu Asn
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 Gly Ala Leu Arg Pro Pro Ser Ser Trp Leu Glu Ser Leu Gln Ala
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 Gly Glu Val Asp Thr Thr Gly Arg Thr Cys Ile Phe Leu Gly Glu
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 Ser Arg Gly Ala Ala Met Ser Ser Glu Asp Pro Trp Lys Ala Leu
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 His Ile Gly Leu Leu Arg Thr Ile Arg Asn Glu Asn Asn Gly Lys
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 Glu Tyr Val Ser Leu Asp Leu Asp Pro Ser Arg Asn Ala Tyr Thr
 1775 1780 1785
 His Glu Ser Leu Tyr Ala Ile Cys Asn Ile Phe Asn Gly Arg Leu
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Phe	Arg	Asp	Val	Met	Val	Ala	Met	Gly	Gln	Leu	Glu	Ala	Asn	Arg
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Val	Met	Gly	Phe	Glu	Cys	Ala	Gly	Val	Ile	Thr	Lys	Leu	Gly	Gly
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Ala	Ser	Val	Pro	Leu	Ala	Phe	Thr	Thr	Ala	Tyr	Ile	Ala	Leu	Tyr
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Thr	Thr	Ala	Lys	Leu	Arg	Arg	Gly	Glu	Arg	Val	Leu	Ile	His	Ser
	1985					1990					1995			
Gly	Ala	Gly	Gly	Val	Gly	Gln	Ala	Ala	Ile	Ile	Leu	Ser	Gln	Leu
	2000					2005					2010			
Ala	Gly	Ala	Glu	Val	Phe	Val	Thr	Ala	Gly	Thr	Gln	Ala	Lys	Arg
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	2030					2035					2040			
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Met	Ala	Asp	Glu 100	Phe	Arg	Lys	Ile	Lys 105	Asp	Met	Cys	Met	Tyr 110	Lys	Phe
Leu	Ala	Asp 115	Asp	Phe	His	Ser	His 120	Leu	Pro	Gly	Phe	Asp 125	Gly	Phe	Lys
Glu	Ile 130	Cys	Gln	Asp	Ala	His 135	Leu	Val	Asn	Lys	Val 140	Val	Leu	Asn	Gln
Leu 145	Gln	Thr	Gln	Ala	Pro 150	Lys	Tyr	Thr	Lys	Pro 155	Leu	Ala	Thr	Leu	Ala 160
Asp	Ala	Thr	Ile	Ala 165	Lys	Leu	Phe	Gly	Lys 170	Ser	Glu	Glu	Trp	Gln 175	Thr
Ala	Pro	Val	Tyr 180	Ser	Asn	Gly	Leu	Asp 185	Leu	Val	Thr	Arg	Thr 190	Val	Thr
Leu	Ile	Met 195	Val	Gly	Asp	Lys	Ile 200	Cys	His	Asn	Glu	Glu 205	Trp	Leu	Asp
Ile	Ala 210	Lys	Asn	His	Ala	Val 215	Ser	Val	Ala	Val	Gln 220	Ala	Arg	Gln	Leu
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Gln	Gly	Arg	Lys	Leu 245	Arg	Asp	Gln	Val	Arg 250	Arg	Ala	Arg	Lys	Ile 255	Ile
Asp	Pro	Glu	Ile 260	Gln	Arg	Arg	Arg	Ala 265	Glu	Lys	Ala	Ala	Cys 270	Val	Ala
Lys	Gly	Val 275	Gln	Pro	Pro	Gln	Tyr 280	Val	Asp	Thr	Met	Gln 285	Trp	Phe	Glu
Asp	Thr 290	Ala	Asp	Gly	Arg	Trp 295	Tyr	Asp	Val	Ala	Gly 300	Ala	Gln	Leu	Ala
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Leu	Val	Asp	Ile	Ala 325	Arg	His	Pro	Asp	Leu 330	Ile	Gln	Pro	Leu	Arg 335	Gln
Glu	Ile	Arg	Thr 340	Val	Ile	Gly	Glu	Gly 345	Gly	Trp	Thr	Pro	Ala 350	Ser	Leu

Phe Lys Leu Lys Leu Leu Asp Ser Cys Met Lys Glu Thr Gln Arg Ile
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Lys Pro Val Glu Cys Ala Thr Met Arg Ser Thr Ala Leu Arg Asp Ile
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Thr Leu Ser Asn Gly Leu Phe Ile Pro Lys Gly Glu Leu Ala Ala Val
385 390 395 400

Ala Ala Asp Arg Met Asn Asn Pro Asp Val Trp Glu Asn Pro Glu Asn
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Tyr Asp Pro Tyr Arg Phe Met Arg Met Arg Glu Asp Pro Asp Lys Ala
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Trp Asn Pro Arg Ala Cys Pro Gly Arg Phe Phe Ala Ser Lys Glu Ile
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Lys Ile Leu Leu Ala His Ile Leu Ile Gln Tyr Asp Val Lys Pro Val
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Asn Gln Gln His Pro Leu Arg Ser Gly Asn Arg Ala Leu Thr Ser Thr
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Leu Gln Phe Leu Ser Lys Thr Ala Cys Leu His Pro Ile His Thr Val
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Cys Thr Ile Ala Ile Leu Ala Ser Thr Thr Tyr Val Gly Leu Leu Lys

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Leu Asn Trp Ile Asp Gly Arg Gly Lys Gly Ile Val Ala Glu Ala Ile	
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ata ccg gcg aac gtt gtc agg gat gtc tta aag agc gat gtg gat agc	2976
Ile Pro Ala Asn Val Val Arg Asp Val Leu Lys Ser Asp Val Asp Ser	
980 985 990	
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Met Val Gln Leu Asn Ile Ser Lys Asn Leu Ile Gly Ser Ala Met Ala	
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Gly Ser Val Gly Gly Phe Asn Ala Gln Ala Ala Asn Leu Ala Ala	
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Gly Val Arg Gly Ser His Pro Thr Thr Pro Gly Glu Asn Ala Arg	
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Gln Leu Ala Arg Ile Ile Gly Ser Ala Val Leu Ala Gly Glu Leu	
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Met Ala His Asn Arg Ser Ala Pro Ala Ser Ser Ala Pro Ser Arg	
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Ser Val Ser Pro Ser Gly Gly Thr Arg Thr Val Pro Val Pro Asn	
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Cys Thr Ile Ala Ile Leu Ala Ser Thr Thr Tyr Val Gly Leu Leu Lys
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Asp Ser Phe Phe His Gly Pro Ala Asn Val Asp Lys Ala Glu Trp Gly
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Ser Leu Val Glu Gly Ser Arg Ser Leu Ile Thr Gly Pro Gln Asn Gly
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Trp Lys Trp Gln Ser Phe Asp Gly Asp Ala Asp Val Leu Gly Asp Phe
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Asn His Gln Ala Leu Met Thr Leu Val Phe Pro Gly Ser Tyr Gly Val
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Ala Ser Gln Ala Ala Ser Pro Phe Leu Ala Pro Leu Pro Val Asn Leu
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Ser Val Ile Asp Leu Pro Ser Thr Ser Ser Pro Leu Thr Ala Tyr Ser
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Lys Asp Lys Val Phe Ala Phe Ser Val Glu Tyr Ser Ser Ala Pro Glu
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Ile Val Cys His Tyr Val Val Glu Ile Leu Leu Leu Val Ile Gly Ala
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Val Leu Gly Ile Gln Gly Gly Leu Gln His Phe Cys Val Leu Ala Ala
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Ile Leu Ser Ile Lys Leu Glu Val Asn Arg Leu Lys Arg His Ile Asn
420 425 430

Met Arg Tyr Ala Leu Glu Asp Glu Gly Leu Ser Gln Arg Thr Ala Glu
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Ser Val Ala Thr Ser Asn Asp Ala Gln Asp Ser Ala Arg Thr Tyr Leu
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Phe Gly Asn Asp Met Lys Gly Ser Ser Val Pro Lys Phe Lys Phe Trp
465 470 475 480

Met Val Val Gly Phe Leu Ile Val Asn Leu Val Asn Ile Gly Ser Thr
485 490 495

Leu Phe Gln Ala Ser Ser Ser Gly Ser Leu Ser Ser Ile Ser Ser Trp
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FOI b7D b7C b7E b7F

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Val Gly Val Ala Gly Pro Ile Val Ile Asp Gly Lys Ser Tyr Phe Ile
805 810 815

Pro Met Ala Thr Thr Glu Gly Val Leu Val Ala Ser Ala Ser Arg Gly
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Ser Lys Ala Ile Asn Leu Gly Gly Gly Ala Val Thr Val Leu Thr Gly
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Asp Gly Met Thr Arg Gly Pro Cys Val Lys Phe Asp Val Leu Glu Arg
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